ISSN 0010-0870

COLLEGE & RESEARCH LIBRARIES

JANUARY 1975
VOLUME 36
NUMBER 1

In This Issue–

Announcing Part One of the most comprehensive library of its kind ever offered...

The Gerritsen Collection of Women's History

(1543-1945) in Microfiche

Over 4,000 volumes of books, periodicals and pamphlets from the Kenneth Spencer Research Library, University of Kansas—recording the intellectual, political and social history of women.

"It is safe to say that no other collection in this country offers such resources for comparative studies of the feminist movement."

—Dr. Anne Firor Scott, Professor of History, Duke University

The Gerritsen Collection spans the years 1543-1945 and ranges over an enormous number of topics, with the major portion falling between the crucial years from 1850-1920. Many rare volumes in English are included and about half the books are in French, German, Italian, Dutch, Swedish, Spanish, Czechoslovakian and other European languages.

Convenient and comprehensive bibliographic access

A thorough bibliographic system provides easy access to the important resources contained in the Gerritsen Collection. It consists of a printed **Guide,** which describes each item in detail, and a library **Catalog Card System.**

Pre-publication offer saves you $2,500

The price of the complete Gerritsen Collection in 4" x 6" microfiche is $18,000. However, you can save $2,500 by placing your order before March 1, 1975. (A Deferred Payment Plan is also available.) The collection will be shipped and billed in four segments, beginning in the summer of 1975.

For our complete brochure, including sample catalog entries, please mail the attached coupon. Or call Jean Reid at (201) 447-3000.

An ongoing microfiche program

The Gerritsen Collection will be supplemented regularly with other authoritative materials on women's history. They will use the same indexing and cataloging systems—and the flexible microfiche format will allow for convenient interfiling.

Microfilming Corporation of America
NYT A New York Times Company
21 Harristown Road,
Glen Rock, New Jersey 07452
201/447-3000

☐ Please send me your complete brochure on The Gerritsen Collection of Women's History in microfiche.

☐ Please phone me at ( ) _____

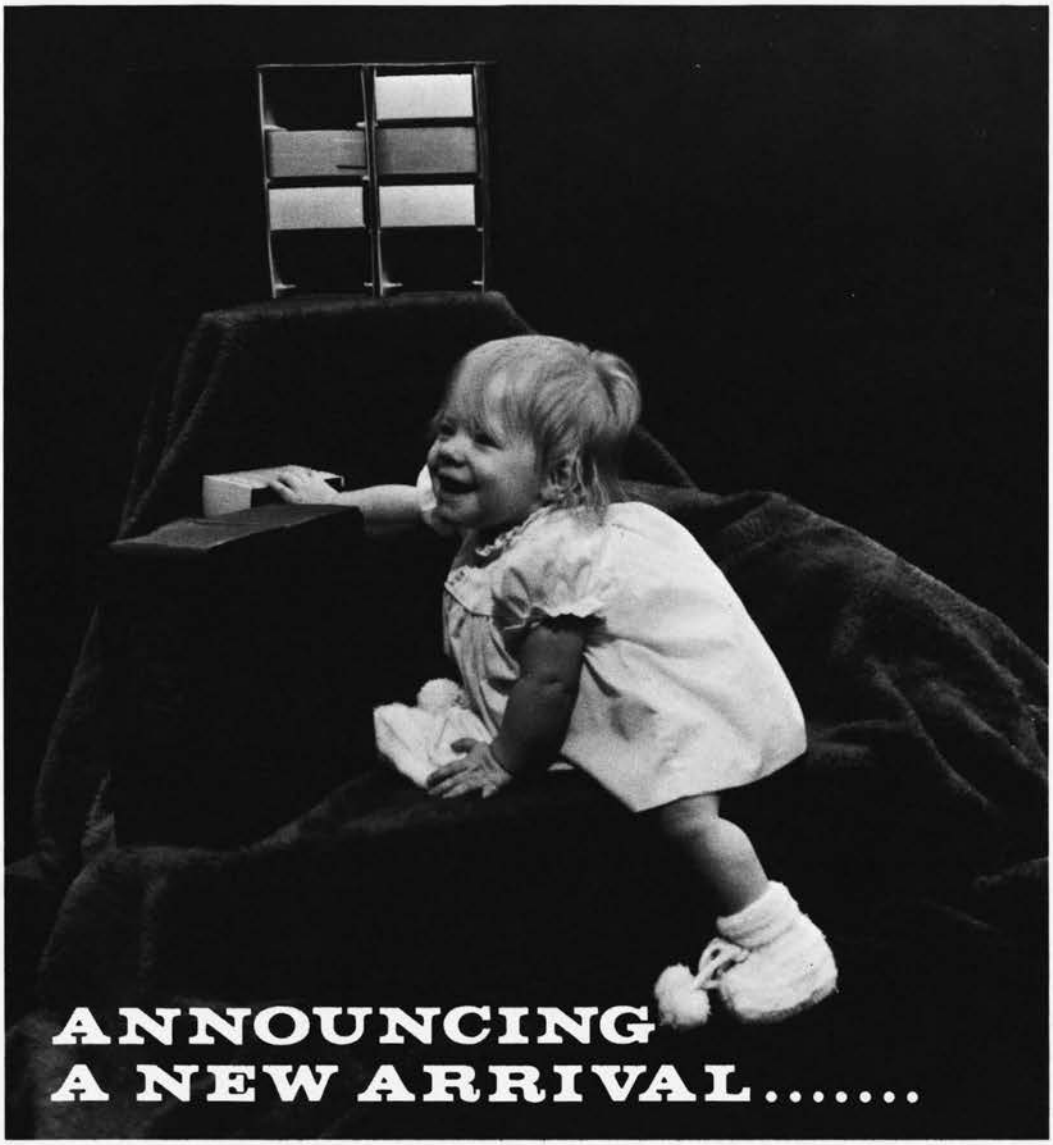
Name _____ Title _____

College/Library _____

Address _____

City _____ State & Zip _____

Microfilming Corporation of America
NYT A New York Times Company
21 Harristown Road
Glen Rock, New Jersey 07452



MICRO-VOX™ Pat. Pend. . . . . .

Is a new low cost concept for shelving either 12-16mm or 8-35mm microfilm reels or cartridges in a book like fashion. Its use of the depth of your present shelving allows for increased storage space while at the same time decreasing your per reel storage costs.

Available in black only with label holder and label stock provided for easy identification.

1 - 24 . . . . . $4.95 each
25 - 50 . . . . . 4.50 each
51 or more . . . . 4.25 each

Place your order or write for more information to:

STAPPENBECK BOOK BINDERY, INC. • P.O. Box 656
Bloomington, Illinois 61701 • Telephone (309) 828-8035

JANUARY 1975
VOLUME 36
NUMBER 1

COLLEGE & RESEARCH LIBRARIES

CONTENTS

COLLEGE & RESEARCH LIBRARIES

Manuscripts of articles and copies of books submitted for review should be sent to the Editor: Richard D. Johnson, James M. Milne Library, State University College, Oneonta, New York 13820. Instructions for authors are printed elsewhere in this issue.

Material for the **News** issues should be sent to the News Editor: Mary Frances Collins, University Library, State University of New York at Albany, 1400 Washington Ave., Albany, NY 12222.

Production and Circulation office: 50 E. Huron St., Chicago, IL 60611. Advertising office: Leona Swiech, Advertising Traffic Coordinator, 50 E. Huron St., Chicago, IL 60611. Change of address and subscription orders should be addressed to **College & Research Libraries,** for receipt at the above address, at least two months before the publication date of the effective issue.

Annual subscription price: to members of ACRL, $7.50, included in membership dues; to nonmembers, $15. Retroactive subscriptions not accepted. Single copies and back issues: journal issues, $1.50 each; News issues, $1 each.

Inclusion of an article or advertisement in **C&RL** does not constitute official endorsement by ACRL or ALA.

Indexed in **Current Contents, Current Index to Journals in Education, Library Literature,** and **Science Citation Index.** Abstracted in **Library & Information Science Abstracts.** Core articles abstracted and indexed in **ARTbibliographies, Historical Abstracts** and/or **America: History and Life.** Book reviews indexed in **Book Review Index.**

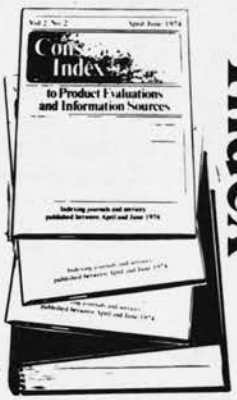
College & Research Libraries is the official journal of the Association of College and Research Libraries, a division of the **American Library Association,** and is published seventeen times per year—bimonthly as a technical journal with 11 monthly News issues, combining July-August—at 1201-05 Bluff St., Fulton, Mo. 65251.

Second-class postage paid at Fulton, Mo.

As your budget gets tighter you need the best advice you can find.

You just found it. **Consumers Index** *and* **Media Review Digest** *provide the advice you need, compiling evaluative information on media software and equipment of value to libraries, schools, and consumers. Each is the most significant reference and selection tool in its field. Purchasing based on advice from these works could save many times their modest cost.*

Consumers Index



- Digests the contents of articles from over 100 consumer interest and general information sources.
- Indexes and codes all product tests and evaluations from these sources by brand name.
- Digests the contents of new books, pamphlets and other publications related to consumerism.
- Covers cars, cameras, stereo equipment, tape recorders, boats, camping trailers, insurance, furnishings, and equipment for business, educational and library use, personal investments, health care and much more.
- Designed for use by the general consumer, educational institutions and business offices.
- Published quarterly and cumulated annually: Quarterly subscription, $25.00; Annual cumulation, $25.00; Combined subscription, $45.00
- 10% discount to libraries ordering 10 or more subscriptions direct from Pierian Press. Foreign postage extra.

MEDIA REVIEW DIGEST

- Is the most comprehensive and current selection, acquisitions, cataloging and reference tool in the field of non-book media.
- Covers both educational and feature films, filmstrips, records and tapes (popular, classical and spoken-word), and miscellaneous media including slides, transparencies, overlays, games, kits, etc.
- Catalogs all educational items, providing: descriptions of subject content, Library of Congress headings, Dewey decimal numbers, grade level indications, and award citations.
- Includes an estimated 50-60,000 review citations per year, and digests many thousands of critical and evaluative reviews from major reviewing sources.
- Both an alphabetical Library of Congress and a classified Dewey decimal subject approach are provided for all educational media.
- Annual cumulations are updated by quarterly supplements, all of which include subject indexes.

MRD 1973/74, $65 plus postage. MRD 1974/75, $65 plus postage.
OTHER SUBSCRIPTION PACKAGES AVAILABLE.

Serials Review *and* **Reference Services Review** *provide similar advice on serials and reference materials. 30--day examination privileges. Send for complete information.*

pierian press 5000 washtenaw ann arbor, michigan 48106

COLLEGE
& RESEARCH
LIBRARIES

A New Year

We greet 1975 with a new design for *College & Research Libraries* and trust our readers will welcome with pleasure its changed appearance. We also begin this year with a new editorial staff for the journal. Elaine Downing, State University College, Oneonta, New York, serves as Assistant Editor; and Mary Frances Collins, State University of New York at Albany, begins editorship of *College & Research Libraries News*. Anne Dowling, also at the State University of New York at Albany, serves as Associate News Editor.

College & Research Libraries in its two formats—a bimonthly technical journal with eleven monthly *News* issues—is the basic medium for professional communication among librarians in our colleges, universities, and research institutions.

In its role as the official journal of the Association of College and Research Libraries, the periodical also has a special mission in sharing with academic and research librarians reports on the ongoing work of ACRL. Recent issues of the *News* with statements on standards for college libraries and guidelines for branch libraries bear testimony to the importance of ACRL in the maintenance and improvement of library service.

This new year also brings a changed dues schedule for the American Library Association. Under this schedule, voted by the membership last year, members through annual dues of thirty-five dollars will have a basic membership in ALA. No longer do we check off our "two divisions"; instead, we are obliged to make specific choices of the divisions we join and then support those choices with additional dues.

A recent sample survey of ALA members has indicated that each division will probably lose a substantial number of its members because of the changed dues structure. Already it appears some planning is underway on how to curtail division programs because of lessened financial support.

We have the opportunity in ACRL to prove the error of this survey and to indicate through our membership that ACRL will flourish.

As the pages of *College & Research Libraries* show, the programs of ACRL are many and worthwhile; ACRL deserves our support so that it may remain the national spokesman for college, university, and research librarians. A major program of ACRL is publication, and this journal is the principal example of that program. It is a tangible benefit of membership, and the present editorial staff is devoted to its continued improvement. We begin 1975 with optimism and commitment to ACRL and ALA.

R.D.J.

We're letting the news get around

For the first time, **american libraries** is available to *all* libraries—on subscription. (And, of course, anyone can have it as part of ALA membership, now available at a new low cost for individuals.)

What's more, **american libraries** is launching out in a bold new direction never fully achieved in the library press: Association, professional, national and local news without tears. Who says an official journal has to be dull? Not the new AL editor, who brings two Educational Press Association Awards of his own to add to the six that AL won in 1973.

There'll be plenty of hard news in AL these hard times. Isn't it good news that you can subscribe for your library by just checking the form below?

american libraries

Subscriptions Dept., 50 East Huron St., Chicago 60611

Please send _____ subscription(s) for _____ year(s) (11 issues per year, $20.00)

Send to: _____
Institution
_____
_____
Address
_____
City State Zip

Bill to: _____
Institution
_____
_____
Address
_____
City State Zip

ROBERT BALAY and CHRISTINE ANDREW

Use of the Reference Service in a Large Academic Library

A method for collecting and analyzing records of reference inquiries received by the Reference Department of Yale University Library is described. Variables observed included day, hour, patron affiliation, inquiry type, inquiry mode, time expended, and search points. Inquiries were recorded on forms which also functioned as worksheets for keypunching. An existing computer program generated tables in which observed variables were compared. Tables of search units were also prepared. Conclusions were drawn regarding traffic, staffing, outside use of the library, need for user training programs, and the like. Methods were found to be simple and economical, and information useful in the management of reference service was derived.

THIS PAPER SUMMARIZES A STUDY of the use of reference service at Sterling Memorial Library, the central research library of Yale University. The study was conducted during three weeks of April 1970, one week of November 1970, one week of January 1971, and two weeks of April 1971.

The study grew out of the dissatisfaction which the staff of the library's Reference Department felt toward the methods of gathering reference statistics which had been used in the past. Reference questions had simply been recorded by entering marks on a sheet that had been divided into seven parts to represent the days of the week. The sheets were collected at the end of the week, the numbers tallied, and the results reported in the department's annual report. The count was not taken during the entire year, but only for a two- or three-week period in April, at the end of the annual reporting period.

This practice, or something like it, is commonly used in university libraries. Annual reports of these libraries often contain sections which tabulate the number of reference inquiries for the reporting year and compare this with the performance of prior years.

The method is nevertheless manifestly unsatisfactory, as librarians acknowledge in writing about the measurement of reference service. A tone of pessimism pervades the literature on the subject. Rogers speaks of "the follies we commit and the fallacies we perpetuate" with regard to reference statistics, and Rothstein characterizes the attitude of those who have written about statis-

Robert Balay is head, Reference Department, Yale University Library. Christine Andrew is librarian, Bibliographic Center, Research Libraries Group, New Haven, Connecticut.

tics of reference service as one of "querulous diffidence."[1, 2] A handbook on library statistics, whose aims were to standardize concepts, definitions, and terminology and to make recommendations with regard to the reporting of library statistics, advised flatly that so far as reference service is concerned, "National data are not feasible at this time."[3] To some extent, the pessimism is justified. Studies which have analyzed large numbers of inquiries have tended, like Guerrier, to consider only the kinds of questions being asked.[4] Occasionally, efforts have been made to learn something about users as well as about questions; often, however, the number of inquiries is so small as to cast doubt on the result,[5] or the information gathered about users is of interest to public libraries but not to others.[6] Cole's study was carefully planned, but specifically excluded research libraries.[7] Lacking altogether has been a methodology for gathering detailed information about patterns of reference use—when various categories of users enter the library, what questions they ask, how the questions asked by one category differ from those asked by another, what parts of the library's collections are used in answering various kinds of inquiries, and so on.

One may well ask in light of this whether there is any profit in undertaking yet another statistical study of reference use. It was our view that such a survey may be justified if it provides a means of evaluating the quality of reference service being offered, or if it assists in the management of reference service by providing detailed information about patterns of use. The present study addressed itself primarily to the latter point. We also hoped to develop a methodology which could be adapted for use in other libraries and which could thereby contribute toward the development of standards of reference service. The principal aim, however, was to find out about patterns of reference use in our own library, an aim that we believed would justify the effort expended.

Requirements

Several factors governed the design of this study.

1. In order to provide a firm basis for generalizations about reference use, a large number of observations would be required.
2. In order to determine total use patterns, all questions would have to be recorded, no matter how trivial they might seem.
3. Since funds were limited, costs would have to be low.
4. Since we would have to use the working reference staff to collect data, procedures would have to be easy to administer and forms simple to complete.
5. Data collecting would have to be done in such a way as to interfere as little as possible with normal reference work.
6. Data would have to be capable of being analyzed in such a way as to permit comparison of various items in it, so that variables could be seen in relation to one another.

The last point is particularly important. We hoped to discover traffic patterns in reference use, and in addition more detailed information about users and the service provided for them—how the kinds of questions asked by various user categories differed, which categories of questions required the greatest searching time, where librarians looked for answers to inquiries, and so on.

We also hoped that the study would contribute toward answering some of the persistent management problems confronting the Yale Library. Among these were: Is the level of staffing at the reference desks appropriate to the volume of business? Would directories and signs aid users who have simple direc-

tional inquiries? Should access to the library by users not affiliated with Yale be restricted? Are the various reference collections useful, and are they properly located? Do users have the library skills they need to function in a research library, or would library instruction be of benefit to them?

We recognized that problems like these are complex, and that solutions to them depend on many factors. It seemed evident, however, that knowing about patterns of reference use would help in solving them.

Methods

The approach that was taken to satisfy the design requirements was to use an interview form which could be filled out during normal treatment of reference inquiries and could double as a keypunching worksheet; to punch data on Hollerith cards, later transferring it to magnetic tape; and to use an existing computer program which would build bivariate frequency tables, permitting various items of data to be seen in relation to one another. (The methodology described here borrows from techniques developed by the Research Department of the Yale University Library, the methods having been used for the analysis of data collected during a study of catalog use conducted from 1967 to 1969. The authors are particularly indebted to Peter Stangl, then of the Yale Medical Library, for his assistance in developing the methodology.)

Collecting Data

The worksheet is shown in Figure 1. Several months were spent developing and testing preliminary versions before this format was chosen. The only question asked of the user, other than those related to the reference inquiry, was affiliation. The remainder of the form was filled out by the librarian, usually at the conclusion of the inquiry. A form was completed for each person who asked a question at the reference desk each time he or she asked, whether a form had previously been filed or not; a form was filled out for each inquiry, no matter how trivial.

The form was designed to act as a worksheet for keypunching. For this reason, punched card columns are indicated for each field, and the specific coding to be punched in each field is given at the left-hand side of each data item. For example, a librarian recording an inquiry at 3:00 p.m. would check the box under the *Time of Day* field for 2:00–4:00 p.m.; the keypuncher would punch "05" in columns 2–3 of the card representing that inquiry.

Most categories on the worksheet are self-explanatory, but a few words of clarification are necessary. Under *Patron Affiliation,* a division was made between persons who had official affiliation with the university (coded 01 through 07) and those who did not (coded 08 through 11). Cardholders are those persons who are not formally affiliated with the university but have borrowers' cards because they fall within special categories qualifying for this privilege, or because they have purchased cards.

Under *Type of Inquiry,* a general entry for card catalog inquiries (coded 03) was used for inquiries which did not fit any of the three more specific card catalog entries, or which involved several different kinds of activity at the catalog. Similarly, a general bibliographic entry (coded 07) was provided for inquiries which did not fit the more specific bibliographic categories.

The "IPL & Book ordering" entry (coded 11) was used both for interpretation of entries appearing on the IPL and for assistance in completing book request forms. The IPL (In-Process List) is one product of the Yale University Library's computer-based Machine-Aided Technical Processing System (MATPS), whose purpose is to aid in the acquisition and processing of li-

DAY OF WEEK
(Column 1)

1[__] Monday
2[__] Tuesday
3[__] Wednesday
4[__] Thursday
5[__] Friday
6[__] Saturday
7[__] Sunday

TIME OF DAY
(Columns 2-3)

01[__] 8:30-10:00
02[__] 10:00-12:00
03[__] 12:00-1:00
04[__] 1:00-2:00
05[__] 2:00-4:00
06[__] 4:00-5:00
07[__] 5:00-6:00
08[__] 6:00-7:00
09[__] 7:00-9:00
10[__] 9:00-10:00

MODE OF INQUIRY
(Column 4)

1[__] Person
2[__] Telephone
3[__] Dept. Lib.

DURATION
(Column 5)

1[__] Negligible
2[__] 1-2 minutes
3[__] 3-5 minutes
4[__] 6-10 minutes
5[__] 11-60 minutes
6[__] Over 60 minutes

PATRON AFFILIATION
(Columns 6-7)

01[__] Yale Undergrad
02[__] Yale Graduate
03[__] Yale Faculty
04[__] Yale Staff
05[__] Yale Library Staff
06[__] Immed. Family of Above
07[__] Yale Alumni
08[__] Undergrad - Other Univ.
09[__] Graduate - Other Univ.
10[__] Faculty - Other Univ.
11[__] Cardholder
12[__] Other

TYPE OF INQUIRY
(Columns 8-9)

01[__] 1. General Information
02[__] 2. Library Directions
03[__] 3. Card Catalog
04[__] A. Simple
05[__] B. Instructions
06[__] C. Problem entries
07[__] 4. Bibliographic
08[__] A. Citation
09[__] B. Instructions
10[__] C. Recommendations
11[__] 5. IPL & Book ordering
12[__] 6. Data
13[__] 7. Yale dissertations
14[__] 8. Referrals
15[__] 9. Interlibrary Loans
16[__] 10. Stacks
17[__] 11. Library Instruction
18[__] 12. Other

SEARCH LOCATIONS
(Columns 10-11; 12-13; 14-15; 16-17)

01[__] No search
02[__] Card Catalog
03[__] Index Collection
04[__] Catalog Reference Area
05[__] Main Reading Room
06[__] Bibliography Room
07[__] IPL
08[__] Desk Reference Area
09[__] Technical Services
10[__] Reference Office
11[__] Stacks
12[__] Other

COMMENTS

Fig. 1

Sample Worksheet

brary materials. The IPL is a main entry list of materials which are on order, or which have been received and are at some point in the processing flow. In its present form, the IPL consists of a cartridge of 16mm computer output microfilm containing some 85,000 entries, issued every two weeks; a microfilm reader; and a daily cumulative printout of orders generated since the last edition of the microfilm.

The "Data" entry (coded 12) was used for inquiries as to specific facts, such as addresses, numerical data, statistics, biographical information, quotations, allusions, financial information, dates—all the inquiries that are often called "ready reference."

The entries under the *Search Locations* category refer to areas on the ground floor of Sterling Library. Because a large collection of books housed in the Reserve Book Room was being reclassed before being sent to a new intensive use library (called the Cross Campus Library) in the summer of 1970, an entry "Cross Campus Library" was added to the *Type of Inquiry* and *Search Locations* categories for November 1970 and continued for the remainder of the study. This entry appears in some of the tables, although it is not on the worksheet.

In each category on the worksheet, librarians were instructed to make only one entry, with the exception of the *Search Locations* category, where they were instructed to make at least one, but not more than four, entries. It will be seen that in some categories (e.g., *Duration* and *Type of Inquiry*) considerable judgment was required on the part of those completing the forms. Librarians were instructed to be as accurate as possible in estimating time spent, and to exercise their best professional judgment in choosing inquiry type.

Interview Method

Librarians were instructed to conduct themselves at the reference desk in their usual manner as nearly as possible. No special policies or procedures were instituted for test purposes.

The only deviation from normal practice was to ask the user's affiliation. Librarians were instructed to question the user closely at some point during the interview to determine his or her category as a user, and to inform the user if asked that the information was needed in connection with a study of library use which was being conducted. Only a few users wanted more information than that; most had a positive response to the idea of a survey. Librarians then proceeded with normal negotiation of the question, completing the remainder of the form at the conclusion of the inquiry. Completed forms were collected at the end of each day.

Sampling Strategy

Initially, three weeks in April 1970 were chosen as the period during which the study would be conducted, since this tended to be the busiest period for reference service. April also had been the period usually used to collect reference statistics for annual reporting purposes. It seemed advisable, therefore, to use the same period for this survey in order to compare our findings with those of prior years. Two things became immediately apparent. First, there could be no comparison with prior years, since the data we collected was much more complex than any that had been gathered before, and it was collected much more carefully. Second, a three-week test in spring term might yield some useful information about reference use at that time of year, but it would also be desirable to know whether the patterns were different at other times. Accordingly, four additional test weeks were chosen: one in November 1970, in order to observe patterns during the fall term; one in January 1971, during the reading period for exams; and two in April 1971, in order to see whether there was any variation between the two spring terms. Since one of the aims of the study was to gather data about total reference traffic, it seemed desirable to select several entire weeks in which the total population could be recorded. No other method of selection was employed.

It must be acknowledged that the sample obtained in this manner may not be as representative of the entire population as one might wish. We operated, however, in the environment of a working library, where many other activities were being carried on at the time the study was conducted, and by the same staff. It was essential, therefore, to col-

lect data at a time when it was possible to do so; tours for new students and lectures on library use take priority early in the fall, for example, to the effective exclusion of other special activities, making November the earliest date in the fall at which we could concentrate on this study. It should also be pointed out that there was remarkably little variation among the weeks chosen for the study, a circumstance that casts doubt on whether more careful sampling would have yielded substantially different results.

Keypunching

At the conclusion of each statistical period, worksheets were delivered to a keypunch operator. Verbal instructions were given to the operator; since card design was straightforward, and columns and punch codes were given on the worksheets, no difficulties were encountered.

Compilation of Tables

Data on punched cards were analyzed by using an existing computer program available at the Yale Computer Center. This program compiles various kinds of statistical tables and is described in Yale Computer Center Memorandum No. 38, "Table Program" (Feb. 1968). Sample tables are shown in Figures 2 and 3. It will be seen that the program enables the computer to construct bivariate frequency tables comparing any two variables in the data submitted to it. In the examples shown, *Day of Week* and *Time of Day* categories are compared. The table shows that between 2:00 and 4:00 on Wednesday afternoons, 241 users asked some kind of reference question; this was 4.7 percent of the inquiries asked for the duration of the study, 26.6 percent of the inquiries asked on Wednesdays, and 18.1 percent of the inquiries asked between 2:00 and 4:00 p.m.

Costs

No additional personnel were added to the staff of the Reference Department for purposes of this study; there were thus no direct personnel costs. Direct costs were as follows:

Printing of worksheets	$50.00
Keypunching	70.00
Computer time, fiscal 1970/71	66.00
Computer time, fiscal 1971/72	56.00
Total	$242.00

Findings

The data gathered during this study and the tables prepared by the computer were rather voluminous: 5,096 observations were recorded, from which the computer prepared seventy-eight pages of tables. This by no means exhausted the possibilities for analysis of the data, but the tables which were prepared recorded the data we believed would be most immediately useful. The findings below, and the associated figures, are based on the tables compiled by the computer, and are those which we consider to be of general interest outside the Yale environment.

Variation

Except as noted below, there was little variation in the data gathered during the four periods of the study.

Traffic was lighter during the week of January 1971 than during any other period of the study. This week fell during a reading period prior to examinations; reference use would appear to decline at such a time. Table 1 gives the number of inquiries for each reporting period.

Use by Yale graduate students rose slightly during the winter months (November 1970 and January 1971) but declined slightly during the spring. Use by persons not affiliated with Yale was higher in the spring than in the winter. Use made of the reference service by outsiders was lower during the period of

REFERENCE USE STUDY

FREQUENCY TABLES

ROW VARIABLE DAYWK COL VARIABLE TIME

VALS	0*	1*	2*	3*	4*	5*	6*	7*	8*	9*	10*	
0	0	0	0	0	0	0	1	1	0	0	0	2
1	3	66	202	83	87	269	79	41	46	125	44	1045
2	0	55	136	80	90	235	81	47	32	88	43	887
3	4	53	178	90	83	241	77	45	24	73	38	906
4	6	54	173	61	95	231	78	39	33	94	52	916
5	6	51	157	77	95	200	93	10	10	19	5	723
6	0	39	116	48	51	152	67	0	0	0	0	473
7	0	0	0	0	0	0	0	0	0	112	32	144
SUMS	19	318	962	439	501	1328	476	183	145	511	214	5096

CELL PERCENTAGES BY TOTAL

ROW VARIABLE DAYWK COL VARIABLE TIME

VALS	0*	1*	2*	3*	4*	5*	6*	7*	8*	9*	10*	
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	0.1	1.3	4.0	1.6	1.7	5.3	1.6	0.8	0.9	2.5	0.9	20.5
2	0.0	1.1	2.7	1.6	1.8	4.6	1.6	0.9	0.6	1.7	0.8	17.4
3	0.1	1.0	3.5	1.8	1.6	4.7	1.5	0.9	0.5	1.4	0.7	17.8
4	0.1	1.1	3.4	1.2	1.9	4.5	1.5	0.8	0.6	1.8	1.0	18.0
5	0.1	1.0	3.1	1.5	1.9	3.9	1.8	0.2	0.2	0.4	0.1	14.2
6	0.0	0.8	2.3	0.9	1.0	3.0	1.3	0.0	0.0	0.0	0.0	9.3
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.6	2.8
SUMS	0.4	6.2	18.9	8.6	9.8	26.1	9.3	3.6	2.8	10.0	4.2	100.0

Fig. 2

Sample Printout: Frequencies and Percentages by Total

REFERENCE USE STUDY

CELL PERCENTAGES BY ROW

ROW VARIABLE DAYWK COL VARIABLE TIME

VALS	0*	1*	2*	3*	4*	5*	6*	7*	8*	9*	10*	
0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
1	0.3	6.3	19.3	7.9	8.3	25.7	7.6	3.9	4.4	12.0	4.2	100.0
2	0.0	6.2	15.3	9.0	10.1	26.5	9.1	5.3	3.6	9.9	4.8	100.0
3	0.4	5.8	19.6	9.9	9.2	26.6	8.5	5.0	2.6	8.1	4.2	100.0
4	0.7	5.9	18.9	6.7	10.4	25.2	8.5	4.3	3.6	10.3	5.7	100.0
5	0.8	7.1	21.7	10.7	13.1	27.7	12.9	1.4	1.4	2.6	0.7	100.0
6	0.0	8.2	24.5	10.1	10.8	32.1	14.2	0.0	0.0	0.0	0.0	100.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77.8	22.2	100.0
SUMS	0.4	6.2	18.9	8.6	9.8	26.1	9.3	3.6	2.8	10.0	4.2	100.0

CELL PERCENTAGES BY COLUMN

ROW VARIABLE DAYWK COL VARIABLE TIME

VALS	0*	1*	2*	3*	4*	5*	6*	7*	8*	9*	10*	
0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0
1	15.8	20.8	21.0	18.9	17.4	20.3	16.6	22.4	31.7	24.5	20.6	20.5
2	0.0	17.3	14.1	18.2	18.0	17.7	17.0	25.7	22.1	17.2	20.1	17.4
3	21.1	16.7	18.5	20.5	16.6	18.1	16.2	24.6	16.6	14.3	17.8	17.8
4	31.6	17.0	18.0	13.9	19.0	17.4	16.4	21.3	22.8	18.4	24.3	18.0
5	31.6	16.0	16.3	17.5	19.0	15.1	19.5	5.5	6.9	3.7	2.3	14.2
6	0.0	12.3	12.1	10.9	10.2	11.4	14.1	0.0	0.0	0.0	0.0	9.3
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.9	15.0	2.8
SUMS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Fig. 3

Sample Printout: Percentages by Row and Column

TABLE 1

NUMBER OF INQUIRIES, BY REPORTING PERIOD

Reporting Period	Number of Inquiries	Number of Weeks	Average Number of Inquiries per Week
April 1970	2,252	3	751
November 1970	728	1	728
January 1971	566	1	566
April 1971	1,550	2	775
Total	5,096	7	728

lowest use (January 1971) than during any other time, both in frequency (48 inquiries) and percentage (9.2 percent).

Traffic

The day of heaviest use was Monday, followed by Thursday, Wednesday, Tuesday, and Friday. Use declined on weekends: Saturday showed only 473 observations, about half the Monday-Thursday average, and Sunday only 144 observations. This is partly a function of reduced hours on Saturdays and Sundays, but the per-hour figure declined as well. (See Table 2.)

Periods of heavy use occurred at 10:00 a.m.–12:00 noon, at 2:00–4:00 p.m., and at 7:00–9:00 p.m. Troughs occurred at the dinner hour and after 9:00 p.m. More than one-fourth of all inquiries came during the peak afternoon period (2:00–4:00 p.m.); 17 percent came after 6:00 p.m. (See Table 3.) On Saturdays, periods of heavy use occurred at 10:00 a.m.–12:00 noon and at 2:00–4:00 p.m., as on weekdays; there was no staffing after 5:00 p.m. Sunday use was heavier than expected; reference service was provided only from 7:00–10:00 p.m., but the number of inquiries compared favorably with the same period for other days of the week.

Most inquiries were delivered in person, about 84 percent; about 15.5 percent came by telephone. Telephone inquiries declined after 5:00 p.m. and on weekends.

TABLE 2

NUMBER OF INQUIRIES, BY DAY OF WEEK

Day of Week	Number of Inquiries	Percent of Total	Rank	Average Number of Inquiries per Hour
Monday	1,045	20.5	1	11.1
Tuesday	887	17.4	4	9.4
Wednesday	906	17.8	3	9.6
Thursday	916	18.0	2	9.7
Friday	723	14.2	5	9.7
Saturday	473	9.3	6	7.9
Sunday	144	2.8	7	6.9
Not recorded	2	—	—	—
Total	5,096	100.0		

TABLE 3

NUMBER OF INQUIRIES, BY HOUR OF DAY

Hour of Day	Number of Inquiries	Percent of Total	Rank
8:30–10:00 a.m.	318	6.2	7
10:00 a.m.–12:00 noon	962	18.9	2
12:00 noon–1:00 p.m.	439	8.6	6
1:00–2:00 p.m.	501	9.8	4
2:00–4:00 p.m.	1,328	26.1	1
4:00–5:00 p.m.	476	9.3	5
5:00–6:00 p.m.	183	3.6	9
6:00–7:00 p.m.	145	2.8	10
7:00–9:00 p.m.	511	10.0	3
9:00–10:00 p.m.	214	4.2	8
Not recorded	19	0.2	—
Total	5,096	100.0	

Users

As shown in Table 4, 77.5 percent of the users were affiliated with Yale; 14.3 percent were not. If unrecorded users are excluded, the percentages are: Yale, 84.7 percent; non-Yale, 15.3 percent. The relative importance of outsiders was greater on Saturdays, when they made up 26.8 percent of the user group, than

TABLE 4

YALE VERSUS NON-YALE USERS

Users	Number of Inquiries	Percent of Total
Yale	3,962	77.5
Non-Yale	715	14.3
Not recorded	419	8.2
Total	5,096	100.0

TABLE 5

YALE VERSUS NON-YALE USERS, BY DAY OF WEEK*

Day of Week	Yale		Non-Yale		Daily Total
	Number of Inquiries	Percent of Daily Total	Number of Inquiries	Percent of Daily Total	
Monday	825	86.5	129	13.5	954
Tuesday	722	87.9	99	12.1	821
Wednesday	710	85.9	117	14.1	827
Thursday	706	85.5	120	14.5	826
Friday	537	81.6	121	18.4	658
Saturday	331	73.2	121	26.8	452
Sunday	130	94.2	8	5.8	138
Total	3,962	84.7	715	15.3	4,677

* Unrecorded users excluded.

during the week. (See Table 5.) On Saturdays, however, the number of inquiries by Yale users declined to less than half its weekday level, while the number of inquiries by outsiders stayed at about its weekday level (121 inquiries versus a weekday average of 117). The larger precentage is, therefore, a function of a smaller population. Use by outsiders declined abruptly on Sundays. During the working day (8:30 a.m.–5:00 p.m.), periods of heavy use by outsiders occurred at 10:00 a.m.–12:00 noon and 2:00–4:00 p.m.; that is, at the same time Yale use was heaviest. (See Table 6.) Use by outsiders declined during the evening. Until 4:00 p.m. outsiders made up about 17 percent of the user population, distributed fairly evenly throughout the day; from that point on, the percentage of outside use declined steadily.

Yale students accounted for more than half of all reference use; 35.5 percent of all users were Yale undergraduates, 24 percent were Yale graduate students. Detailed counts are given in Table 7. Use by Yale undergraduates rose sharply in the evenings. During the working day, Yale undergraduates made up 30.5 percent of the user population; for the 7:00–9:00 p.m. period, the percentage rose to 61.8, and for 9:00–10:00 p.m., to 63.6. Use by Yale undergraduates rose dramatically on Sundays, to 72.2 percent of the user population, more than twice the normal level.

Use by graduate students was steady throughout the day; they made up

TABLE 6

YALE VERSUS NON-YALE USERS, BY HOUR OF DAY*

Hour of Day	Yale		Non-Yale		Daily Total
	Number of Inquiries	Percent of Daily Total	Number of Inquiries	Percent of Daily Total	
8:30–10:00 a.m.	229	81.2	53	18.8	282
10:00 a.m.–12:00 noon	700	82.9	144	17.1	844
12:00 noon–1:00 p.m.	323	80.8	77	19.2	400
1:00–2:00 p.m.	377	82.9	78	17.1	455
2:00–4:00 p.m.	1,042	83.3	209	16.7	1,251
4:00–5:00 p.m.	374	85.6	63	14.4	437
5:00–6:00 p.m.	152	87.4	22	12.6	174
6:00–7:00 p.m.	113	87.6	16	12.4	129
7:00–9:00 p.m.	450	91.8	40	8.2	490
9:00–10:00 p.m.	195	95.1	10	4.9	205
Not recorded	7	—	3	—	10
Total	3,962	84.7	715	15.3	4,677

* Unrecorded users excluded.

TABLE 7

NUMBER OF INQUIRIES, BY AFFILIATION OF USER

Affiliation of User	Number of Inquiries	Percent of Total	Rank
Yale undergraduates	1,810	35.5	1
Yale graduate students	1,223	24.0	2
Yale faculty	360	7.1	4
Yale staff	151	3.0	7
Yale Library staff	321	6.3	5
Immediate family of Yale users	59	1.2	12
Yale alumni	38	0.7	13
Undergraduates, other universities	138	2.7	8
Graduate students, other universities	116	2.3	9
Faculty, other universities	71	1.4	11
Cardholders	92	1.8	10
Other	298	5.8	6
Not recorded*	419	8.2	3
Total	5,096	100.0	

* Affiliation of the user was not asked when the inquiry came by telephone.

about one-fourth of the users for any given time period, and the figure never rose above 30 percent or dropped below 20 percent.

Two general conclusions: (1) Officials of the Yale Library have sometimes asserted that outside users pour into the library on evenings and weekends. We found that, so far as reference service is concerned, outside use declines in the evenings and on Sundays, and that periods of heavy or light use by outsiders follow the pattern set by Yale users; Figure 4 illustrates this. (2) The group utilizing the reference service in the evenings and on Sundays was made up predominantly of persons who reside on or near the campus; that is, Yale undergraduates.

Duration

Only nine inquiries (0.2 percent of the total) required more than sixty minutes of searching time. (See Table 8.)

Of all inquiries, 9.8 percent required more than five minutes of searching time. In other studies, the percentage of inquiries requiring more than five minutes of searching time was on the order of 2 to 3 percent.[8] A number of factors may account for this difference: inaccuracy in recording the time spent; the size of Sterling Library; the fact that the cited study was conducted in undergraduate libraries while ours was conducted in a research library; etc.

TABLE 8

NUMBER OF INQUIRIES, BY DURATION OF SEARCH

Duration of Search	Number of Inquiries	Percent of Total	Rank
Negligible	1,289	25.3	3
1–2 minutes	1,942	38.1	1
3–5 minutes	1,334	26.2	2
6–10 minutes	352	6.9	4
11–60 minutes	137	2.7	5
Over 60 minutes	9	0.2	7
Not recorded	34	0.7	6
Total	5,096	100.0	

Of all inquiries, 25.3 percent could be answered at once ("Negligible" duration).

Questions posed by undergraduates required relatively little searching time; those by graduate students, slightly more; and those by faculty, more searching time than questions from any other group.

Inquiries

Information-direction questions ("General information" and "Library directions" categories) made up 30.6 percent of inquiries. (See Table 9.)

One inquiry in four related to the card catalog.

Bibliographic inquiries made up 16.4 percent of the total.

In other studies, inquiries for specific facts made up fairly large proportions of the questions asked.[9] We found that inquiries for data were relatively rare at Sterling Library, only 6.3 percent of the total. Once again, the difference may be in part a function of the difference in population between our study and others. Users who phoned in their in-

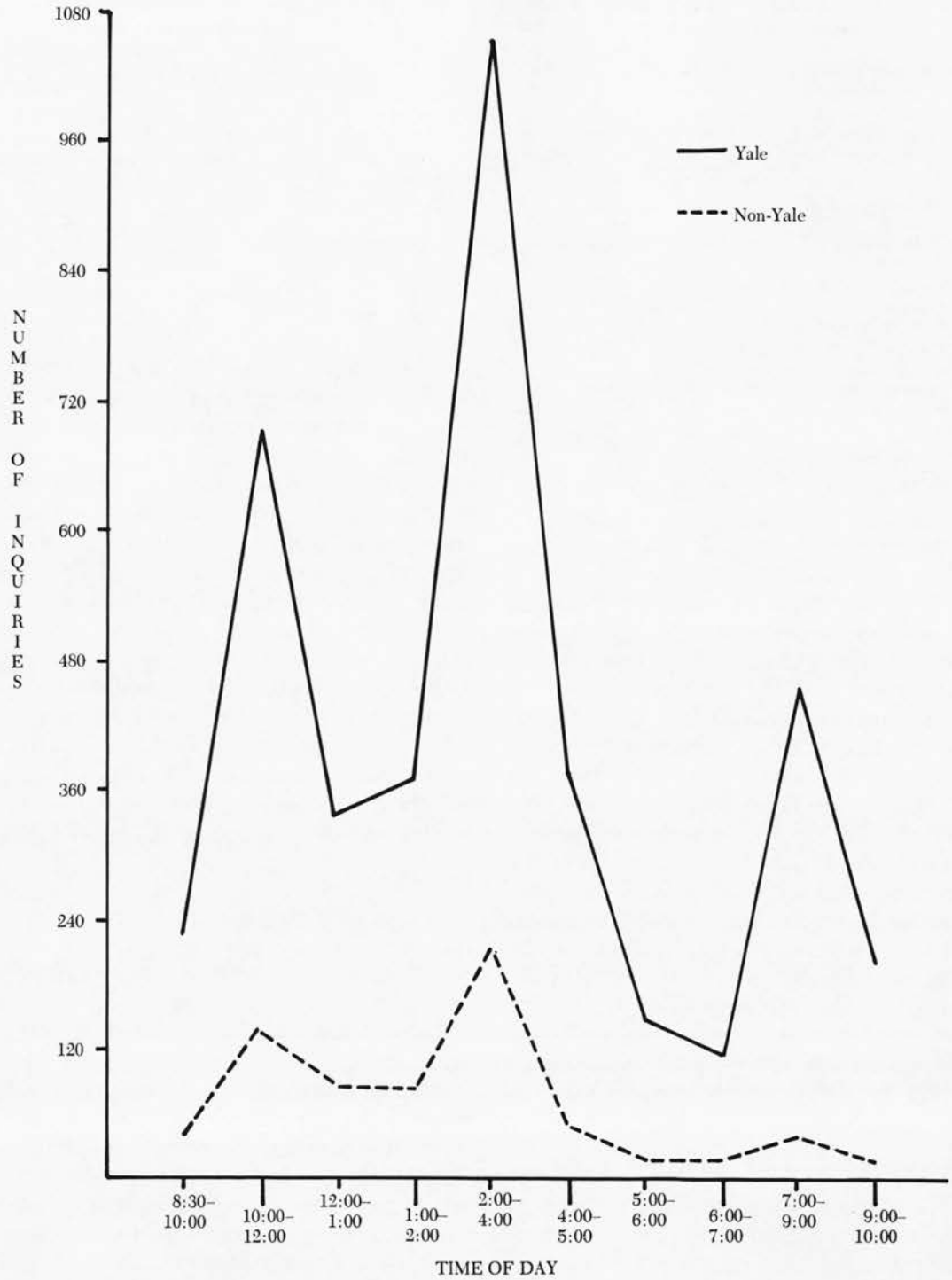


Fig. 4
Yale Versus Non-Yale Users, by Time of Day

TABLE 9

NUMBER OF INQUIRIES, BY TYPE OF INQUIRY

Type of Inquiry	Number of Inquiries	Percent of Total	Rank
General information	571	11.2	3
Library directions	987	19.4	1
Card catalog (General)	133	2.6	14
Simple	817	16.0	2
Instructions	190	3.7	11
Problem entries	200	3.9	9
Bibliographic (General)	140	2.7	13
Citation	260	5.1	6
Instructions	62	1.2	16
Recommendations	377	7.4	4
IPL & book ordering	170	3.3	12
Data	322	6.3	5
Yale dissertations	115	2.3	15
Referrals	220	4.3	7
Interlibrary loans	37	0.7	18
Stacks	193	3.8	10
Library instructions	37	0.7	18
Cross Campus Library*	54	1.1	17
Other	201	3.9	8
Not recorded	11	0.2	20
Total	5,096	100.0	

* Category used during November 1970 and April 1971.

quiries made a higher percentage of data inquiries than those who came in person (17.5 percent of telephone inquiries were classed as data inquiries, only 5 percent of inquiries in person).

As one might expect, information-direction questions could be answered quickly, while more substantive card catalog or bibliographic inquiries required more time. Thus 90.2 percent of the "General information" and 89.7 percent of the "Library directions" questions were answered in two minutes or less. By way of contrast, only 32.1 percent of the general bibliographic inquiries could be answered in less than two minutes. It is interesting to note that of questions in the information-direction categories, 191 (10.7 percent) required three minutes or longer to answer; of these, 19 required six to ten minutes, and 3 required eleven to sixty minutes. These inquiries may have begun as simple directional inquiries and later developed during interrogation into more complex problems, but have been entered, through oversight or otherwise, as directional inquiries. Nevertheless, it cannot be assumed that because an inquiry appears to be a simple information-direction question it always permits a rapid answer, or that the training of a professional librarian will be wasted in pursuing the answer.

We found it interesting to compare the inquiries posed by Yale students and faculty (see Table 10). More than half the questions about stack problems and more than half the requests for recommendation of bibliographic resources were asked by Yale undergraduates, as were two-thirds of the Cross Campus Library questions. Categories of inquiries that Yale undergraduates tended to ask were: general information, library directions, simple catalog lookups, citation problems, bibliographic recommendations, data, and stack problems. This may be taken as a more or less classical undergraduate use pattern: undergraduates are confused by the library and require considerable help in finding their way around in it; they are unfamiliar with card catalogs and require assistance with the simplest lookups; they have difficulty finding materials in the stacks; they know little about bibliographic resources. In other words, they are unfamiliar with the rudimentary mechanics of library use.

Questions asked by Yale graduate students followed the undergraduate pattern closely, except that graduate students asked higher percentages of the inquiries relating to the IPL (In-Process List), to Yale dissertations, and to interlibrary loans. Categories of inquiries that graduate students tended to ask were: general information, library directions, simple catalog lookups, problem entries at the catalog, citation problems, bibliographic recommendations, and IPL and book ordering. Some of the differences between graduate students and undergraduates are not sur-

TABLE 10

INQUIRIES BY YALE STUDENTS AND FACULTY: FREQUENCY, ROW PERCENTAGE, AND COLUMN PERCENTAGE, BY TYPE OF INQUIRY

Type of Inquiry	Yale Undergraduates Number of Inquiries	Percent by Row	Percent by Column	Yale Graduate Students Number of Inquiries	Percent by Row	Percent by Column	Yale Faculty Number of Inquiries	Percent by Row	Percent by Column
General information	201	35.2	11.1	109	19.1	8.9	27	4.7	7.5
Library directions	433	43.9	23.9	236	23.9	19.3	70	7.1	19.4
Card catalog (General)	43	32.3	2.4	22	16.5	1.8	11	8.3	3.1
Simple	208	25.5	11.5	128	15.7	10.5	63	7.7	17.5
Instructions	75	39.5	4.1	50	26.3	4.1	13	6.8	3.6
Problem entries	55	27.5	3.0	62	31.0	5.1	24	12.0	6.7
Bibliographic (General)	43	30.7	2.4	48	34.3	3.9	6	4.3	1.7
Citation	91	35.0	5.0	92	35.4	7.5	10	3.8	2.8
Instructions	32	51.6	1.8	19	30.6	1.6	4	6.5	1.1
Recommendations	175	46.4	9.7	110	29.2	9.0	20	5.3	5.6
IPL & book ordering	52	30.6	2.9	69	40.6	5.6	31	18.2	8.6
Data	95	29.5	5.2	50	15.5	4.1	23	7.1	6.4
Yale dissertations	15	13.0	0.8	49	42.6	4.0	7	6.1	1.9
Referrals	61	27.7	3.4	35	15.9	2.9	12	5.5	3.3
Interlibrary loans	9	24.3	0.5	21	56.8	1.7	1	2.7	0.3
Stacks	105	54.4	5.8	54	28.0	4.4	15	7.8	4.2
Library instructions	10	27.0	0.6	10	27.0	0.8	3	8.1	0.8
Cross Campus Library	36	66.7	2.0	12	22.2	1.0	5	9.3	1.4
Other	69	34.3	3.8	45	22.4	3.7	15	7.5	4.2
Not recorded	2	18.2	0.1	3	27.3	0.2	0	—	—
Total	1,810	35.5	100.0	1,224	24.0	100.0	360	7.1	100.0

prising: graduate students are presumably more aware of the literature of their field, and hence are more likely to inquire about books being processed and to consult the IPL; they are engaged in doctoral research, so they are interested in the dissertation literature.

The differences between the use patterns shown by graduate students and by undergraduates, however, are not nearly so striking as the similarities. One might expect that the greater sophistication and constant exposure to libraries and the scholarly record which are presumed to characterize graduate students might change the way in which they use the library. We found to the contrary that graduate students, like undergraduates, ask many information-direction questions and require elementary help with the catalog and in finding bibliographic resources. The significance of this finding is difficult to assess in the absence of detailed knowledge about the motivations and work patterns of both groups. It seems proper to conclude, however, that the obstacles which cause difficulty for undergraduates (size and complexity of the building and collections, reflected in the size, number, and complexity of the catalogs and other bibliographic aids) still cause problems, and that graduate students have not learned much better than their undergraduate counterparts the rudimentary skills that are needed in using a research library.

Yale faculty asked large proportions of problem catalog entry questions and IPL inquiries. Categories of inquiries that Yale faculty tended to ask were: general information, library directions, simple catalog lookups, problem entries, bibliographic recommendations, IPL and book ordering, and data. This pattern departs from the graduate-undergraduate pattern in the higher incidence of problem entries at the catalog and heavier use of the IPL and book ordering procedures.

TABLE 11

NUMBER OF SEARCHES, BY SEARCH LOCATION

Search Location	Number of Searches	Percent of Total	Rank
No search	1,992	33.3	1
Card catalog	1,564	26.1	2
Index collection	346	5.8	6
Catalog reference area	435	7.3	4
Main reading room	455	7.6	3
Bibliography room	166	2.8	8
IPL	161	2.8	9
Reference desk area	405	6.8	5
Technical services	109	1.8	10
Stacks	73	1.2	11
Reference office	72	1.2	12
Reserve book room	2	0.0	14
Other	185	3.1	7
Not recorded	20	0.3	13
Total	5,985	100.0	

Search Locations

Tables of search locations were calculated by merging the data provided by the computer, which tabulated four sets of location tables, one for each location marked on the survey worksheets. (See Table 11.)

For each inquiry, an average of 1.17 search locations was used.

One in three inquiries required no search.

One inquiry in four required use of the card catalog.

The index collection, catalog reference area, main reading room, and the collection of materials at the reference desk each accounted for about 7 percent of the search locations. Bibliography room and IPL each accounted for about 3 percent.

"General information" and "Library directions" queries were generally answered either after no search or from materials kept at the reference desk.

Sixteen percent of card catalog inquiries required the librarian to go to some resource other than the card catalog, most frequently to the catalog reference area or to technical services.

Bibliographic inquiries required consultation of a wide range of resources: card catalog, index collection, catalog reference area, main reading room, and bibliography room were all heavily consulted. If the variety of resources used is a valid gauge, bibliographic queries would appear to be the most complex kind of reference problem.

Other search locations followed directly from the nature of the inquiry. Data inquiries required use of the ready reference collection in the main reading room or the reference desk area; Yale dissertation inquiries required use of the catalog reference area, where tracking tools for Yale dissertations are kept, or the reference office, where card files and correspondence relating to dissertations are kept; etc.

TABLE 12

SEARCH UNITS

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:30–10:00 a.m.	11.6	20.4	13.9	30.9	20.0	7.2	—
10:00 a.m.–12:00 noon	26.4	19.2	31.8	25.3	18.2	15.3	—
12:00 noon–1:00 p.m.	17.6	30.0	17.0	15.4	14.3	17.6	—
1:00–2:00 p.m.	22.7	19.7	22.3	32.9	13.8	18.8	—
2:00–4:00 p.m.	15.1	19.3	19.0	17.0	19.5	19.3	—
4:00–5:00 p.m.	20.5	14.6	21.9	16.4	18.4	10.5	—
5:00–6:00 p.m.	15.7	12.1	22.2	25.0	8.0	—	—
6:00–7:00 p.m.	16.2	18.3	5.8	17.4	6.7	—	—
7:00–9:00 p.m.	21.4	22.1	18.7	17.6	7.5	—	20.9
9:00–10:00 p.m.	21.5	22.2	13.6	20.9	4.3	—	13.6
Average	18.9	19.9	20.7	21.4	16.8	14.9	18.5

Overall hourly average: 19.1

Search Units

How much of their assigned desk time do reference librarians actually spend in reference work? In an attempt to answer this question a search units table was compiled (Table 12).

The values for each cell were computed as follows. The number of inquiries for each time period was tabulated. Weights were assigned to each query roughly corresponding to the mean time spent in searching for an answer, as follows:

Negligible	0.5
1–2 minutes	1.5
3–5 minutes	4.0
6–10 minutes	8.0
11–60 minutes	35.0
Over 60 minutes	60.0

The number of inquiries for each cell was multiplied by the appropriate weight then divided by the number of hours of assigned reference service to obtain the average time expended in searching during each time period.

The search unit figures obtained in this way provided a rough approximation of the amount of time spent in actually negotiating reference inquiries. It should be remembered that searching time is derived from librarians' estimates of the time they spent looking for answers, and that the figures given in the cells of Table 12 do not represent real time, but are artificial numbers arrived at by manipulation of the weighting factors, which are themselves arbitrary. The temptation to think of the cell values as time spent in negotiating inquiries is all but irresistible, however. The following tentative conclusions are offered:

1. The amount of time expended for each hour of assigned desk duty varied from 4.3 (Friday, 9:00–10:00 p.m.) to 32.9 (Thursday, 1:00–2:00 p.m.). In only three cells did the search unit figure exceed 30.
2. The average search unit figure for each hour of assigned desk duty was 19.1. It seems reasonable to conclude that reference librarians spent about twenty minutes of each hour of desk time answering inquiries.
3. Search unit figures were very low for Friday evenings and Saturday mornings. Evening figures (with the exception of Fridays) compared favorably with those during the day, and Sunday figures compared favorably with weekday evening figures.

General Conclusions

Staffing

Because of the low number of inquiries and the low search unit figures for Friday evenings and Saturday mornings, we concluded that it was not necessary to provide reference service after 5:00 p.m. on Friday or before 10:00 a.m. on Saturday. As a direct result of this survey, staffing of the reference desks was stopped on Friday evenings in the fall of 1970.

The principal group served is the Yale student body, undergraduates and graduate students. Use by this group, particularly by undergraduates, increases during the evening. Evening staffing of the reference desks by professional librarians should be continued, except for Fridays.

Both in terms of total inquiries and search unit figures, Sunday evening use compared favorably with weekday evenings. When one considers that the user group on Sunday evenings consisted mostly of Yale students, particularly undergraduates, it is clearly in order to continue Sunday evening staffing.

Directory Information

The use of directories and signs to provide basic information about the library should assist in handling the high

level of information-direction questions. A building directory, an improved system of directional signs, and manuals for Sterling and other libraries have been generated, in part as a result of this study and using some of the data it provided. (During the January 1971 portion of the study, librarians were asked to record the exact nature of all information-direction questions. These inquiries were used in making directories and floor plans for Sterling Library.)

Catalog Problems

The card catalog is the single most important reference aid. Anyone who has used a catalog as large as the one in Sterling Library (about eight million cards) will appreciate that it is an unwieldy and often baffling thing to use. If one considers the number of libraries the catalog is meant to serve, the size of the collections it is meant to describe, and the range of functions it is expected to fill, one cannot fail to be impressed that the catalog performs as well as it does. We believe, however, that the level of problems we encountered in its use is distressingly high (3.9 percent of all inquiries; 14.9 percent of catalog inquiries). The need for a thorough study of the problems readers encounter at the catalog is indicated.

In order to assist readers in using the catalog, the Reference Department, with advice from the Catalog Department, has prepared two manuals, one on general card catalog use, the other a guide for locating serial titles. The experience gained in this survey was useful in the preparation of these manuals.

Bibliographic Inquiries

Taken together, inquiries which required the consultation of bibliographic sources (i.e., the card catalog, bibliographies and indexes, the IPL, dissertation tracking tools, interlibrary loan verification, library instruction) made up 49.8 percent of all inquiries. Requests for data made up 6.3 percent, and requests for stack assistance another 4.8 percent. All these inquiries call for a measure of bibliographic or technical expertise, or both. It seems to us axiomatic that the presence of a trained professional librarian is essential to handle these inquiries.

There remains a residue of some 40 percent, most of which were information-direction inquiries. It seems likely that paraprofessional assistants could handle these inquiries, and could direct other, presumably more difficult, questions to reference librarians. The decision to use paraprofessional assistants at the reference interview points is not one that may be taken lightly, however. It has been the practice at the Yale Library to staff the reference desks only with professional librarians, on the theory that only professional training provides the background and the commitment that will enable the person behind the desk to interpret successfully the range of reference contacts he or she is likely to receive. Our study was inconclusive on this point. Certainly there was a great number of information-direction questions; but as we noted above, some of them proved on interrogation of the user to be more complicated than they at first appeared. We are not willing to change the present practice of staffing reference desks with professional librarians because of our findings in this study, but we believe that the concept of a separate information desk staffed by paraprofessionals has merit and should be studied more intensively than this study has permitted.

Instruction

The level of library skills possessed by users, especially undergraduates, is not high. Formal library instruction would be beneficial to students at all

levels. A program of instruction in bibliographic resources has been begun at the Yale Library.

Outside Use

The level of use by persons not affiliated with Yale (15.3 percent of all users) approximates that obtained in a recent study of catalog use conducted in Sterling Library.[10] It was not the intent of our study to treat outside users differently than they are normally treated, or to provide a basis for excluding them or screening their use of the library. Since the questions asked by outsiders tended to be uninvolved and to admit of ready answers, their use of the reference service does not interfere with our ability to serve the Yale user community. It may still prove desirable to screen outsiders on other grounds.

Methods

The methods used in this study were inexpensive, easy to administer, and interfered minimally with normal reference work. The computer program used is a type that is widely available. The methods could therefore be adapted for use in other institutions.

Utilization

In addition to providing information for the management decisions discussed above, this study has been useful in ways we did not foresee. When it became necessary because of budget constraints to reduce library hours in the fall of 1971, we were able to provide advice as to when hours might be curtailed with the least effect on our ability to serve readers. Later in the same year, when students challenged the reduction in hours of service and suggested that library funds be saved by eliminating evening reference service, the university librarian was able to use our study to demonstrate that evening use of the reference service was significant, and that the user community during the evening hours was made up predominantly of Yale students; evening reference service was preserved.

References

1. Rutherford D. Rogers, "Measurement and Evaluation," *Library Trends* 3:177–87 (1954–55).
2. Samuel Rothstein, "The Measurement and Evaluation of Reference Service," *Library Trends* 12:456–72 (1963–64).
3. American Library Association, Section of Library Organization and Management, Statistics Coordinating Committee, *Library Statistics: A Handbook of Concepts, Definitions and Terminology* (Chicago: American Library Assn., 1966), p.24.
4. Edith Guerrier, "The Measurement of Reference Service," *Library Journal* 61:529–31 (July 1936).
5. Herbert Goldhor, "Reference Service Analysis," *Illinois Libraries* 42:319–22 (1960).
6. The Nelson Associates study of the New York Public Library, for example (*User Survey of the New York Public Library Research Libraries* [New York: Nelson Associates, Inc., 1969]), was intent on learning such things as the age, sex, and occupation of users.
7. Dorothy E. Cole, "Some Characteristics of Reference Work," *College & Research Libraries* 7:45–51 (Jan. 1946).
8. See, for example, Billy R. Wilkinson, *Reference Services for Undergraduate Students: Four Case Studies* (Metuchen, N.J.: Scarecrow, 1972), p.96 passim.
9. Several studies are summarized by Louis Shores in his *Basic Reference Sources: An Introduction to Materials and Methods* (Chicago: American Library Assn., 1954), p.6–7.
10. Ben-Ami Lipetz, *User Requirements in Identifying Desired Works in a Large Library* (New Haven, Conn.: Yale University Library, 1970), p.7. (Also available as ERIC document no. ED 042479.)

ROBERT L. BURR

Library Goals and Library Behavior

Libraries are multigoal organizations. A simplified form of utility theory is used to identify three classic patterns of multigoal maximization. Formulas describing these patterns can be applied to libraries to provide a tool for defining library goals and analyzing library behavior.

THE PROBLEM OF LIBRARY GOALS weighs heavily on the collective library mind. Whenever librarians gather, be it for a library staff meeting or for a formal conference of a library association, a discussion of library goals or objectives is inevitable. The discussion may be on the elevated plane of philosophy or on the lower level of "what we are trying to do" in concrete behavioral terms. In either case, the discussion is apt to proceed at some length and may conclude by producing more confusion than insight. This impression of deep professional concern over library goals is confirmed by a cursory glance through recent issues of *Library Literature*. During 1972 no less than fifty-five citations appeared under the subheading of "Aims and Objectives." For 1973 the count was a more modest thirty-four.

Among the many factors stimulating increased attention to goals and objectives, two deserve mention. Goals are inextricably linked with change, and as we all know change is one of the few certainties left in our modern world. Like death and taxes, change seems to be inevitable. Some librarians seem to pursue change for its own sake while other librarians seem to resist change for the same reason. Most librarians, however, would prefer to deal with change and its effects on a rational basis. And for this group, goals are important as the necessary starting point to deal with change.

Equally noteworthy is another factor: the impact of systems theory on library education. While perhaps strongest among younger librarians whose formal library education has included the basics of systems theory, the impact upon the whole profession has been significant. Much of the current professional literature includes elements of systems thinking either explicitly or by implication. Thus older librarians with a commitment to continued professional development are apt to have adopted the systemic view of the importance of goals and objectives. According to systems theory, a clear understanding of goals is a sine qua non. One must understand what the system is supposed to do before one may address the question of how it is working or how to perfect it.

DEFINING LIBRARY GOALS

Given the recognized importance of library goals, it is perhaps a bit disheartening to find so much confusion and so little agreement about them. One of the difficulties may lie in the way in which the subject has been approached. Tra-

Robert L. Burr is director of circulation, Earl Gregg Swem Library, the College of William and Mary in Virginia, Williamsburg.

ditionally, defining goals has been an exercise in deductive reasoning. First, broad philosophic principles are enunciated which can compel general agreement, and then specific goals for behavior are set forth which attempt to translate theory into practice. The problem with this approach is apparent: by the time a philosophic principle is broad enough to achieve consensus, it is too broad to be of much use as a guide to practical conduct and policy.

In order to deal intelligently with goals and objectives, librarians must somehow bridge this gap between philosophy and practice. The concept of utility maximization, derived from economics and the behavioral sciences, may provide a tool which can be applied to this problem.[1]

Behavioral studies of man make it clear that he is a multigoal directed creature. Further studies of group behavior have led some organizational theorists to conclude that organizations share this characteristic.[2] Thus the actions of the business firm are not solely dictated by the goal of maximum profits; the firm is also interested in status, power, and perhaps even some humanistic goals as well. Librarians will recognize that there is no single goal which determines their actions, or the actions of their libraries, to the exclusion of all else. In real life situations multiple causes and conflicting priorities are the rule rather than the exception.[3]

Utility theory is based upon the assumption that man acts so as to increase his own satisfaction—utility maximization.[4] The theory recognizes that behavior generally springs from multiple causes and conflicting goals, and attempts to use mathematical formulas to describe the situation.[5] These formulas, in effect behavioral models, may be used both inductively and deductively. By examining examples of overt behavior, one may induce the type of utility maximization which has been followed. If the type of utility maximization preferred is known, then the course of action which will maximize that utility may be deduced.[6]

Needless to say, one person's utility may well be another's debility. Yet since all are striving for maximum utility (satisfaction), it is possible to generalize about general types of behavior. Using a much simplified version of utility theory, three behavioral archetypes can be identified. Each of these types of utility maximization or satisfaction can be expressed by a formula called a utility factor.[7]

Type A, or independent behavior, can be expressed by the formula

$$U_a = f(p_a, q_a, r_a, \ldots, z_a).$$

In this equation U is the utility maximization or satisfaction of a and is seen to be a function f of p, q, r, etc., which are specific identifiable goals which a wishes to achieve. Here satisfaction is dependent strictly upon the degree in which these identified goals are met. This type of satisfaction can be characterized as indifferent to the environment in the sense that satisfaction is dependent only on one set of goals.

Type B, or altruistic behavior, can be expressed by the formula

$$U_a = f(p_a, q_a, r_a, \ldots, z_a; U_b, U_c, \ldots, U_n).$$

In this formulation, the satisfaction of a is a function not only of the degree in which one's own specific goals have been met but also the degree in which the satisfaction of certain others, b, c, etc., has been achieved as well. This type of satisfaction is dependent on the environment in the sense that selected and identifiable elements of that environment, each characterized by its own utility factor, must also be satisfied.

Type C, or competitive behavior, can be expressed by the formula

$$U_a = f(U_a - U_b, U_a - U_c, U_a - U_d, \ldots, U_a - U_n).$$

In this archetype, the satisfaction of *a* is achieved according to the degree that the satisfaction of others specified is diminished. Once again satisfaction is dependent on the environment, but this time in a negative manner.

Appreciation of the three classic types may become easier if they are personalized. The Type A individual is one whose happiness depends solely on self-gratification. The Type B individual is one who wants things for himself or herself but who regards the happiness of others, perhaps family or friends, as equally important. The Type C individual is one who derives happiness from seeing others made miserable. Less value laden but equally valid characterizations at the corporate level may be seen in business. The Type A firm sees its success in terms of higher production, higher sales, profits, etc. The Type B firm may share these goals but is also interested in employee welfare, safety, customer satisfaction, etc. The Type C firm views its success in terms of market position; it is successful only if it is superior to its competitors.

Now that these three classic behavior patterns have been identified, it is time once more to consider libraries. As indicated before, there are two ways in which these utility factors may be utilized. The first to be discussed, deductive reasoning, is much the same as what many librarians have been doing for years. However, the presence of the utility factor may do much to reduce the usual confusion.

Most librarians would agree that of the three types of behavior identified, Type B, or altruistic, is most appropriate for libraries. Therefore, the task is to identify those terms which should be included in the utility factor for any given library. There are, of course, a large number of internal goals which are important to library success. Thus the *p*, *q*, and *r* of the Type B formula might be identified as the construction of an adequate sized building, reaching a specific collection standard in terms of quality and quantity, obtaining certain items of new equipment, etc. A list of such internal goals for a given library might well be longer than this essay. Some objectives will be more important than others. Some may be achieved within a relatively short time while others may remain forever an objective rather than an accomplishment.

Once the internal goals of the library have been identified, attention must be turned to the second half of the equation. The library must face the arduous task of identifying those groups whose satisfaction is most important to it. If the formula is to be used, the familiar platitude of "service for all" must be abandoned. Among groups whose satisfaction is important to public libraries might be found legislators of responsible funding agencies, library board members, pressure groups, and subgroups of users identified by socioeconomic status, age, ethnic background, geographical location, etc. For academic libraries the list might include administrators, faculty members or subgroups of the faculty, students, subject specialists, researchers, etc.

As indicated before, each of these groups whose satisfaction has been identified as necessary to the success of the library has a utility factor. In order for the library to truly satisfy those groups, it must attempt to identify both the type of utility factor exhibited by each group and the library-related terms within it. The library must know its clientele in something more than a superficial manner. The development of utility factors for important client groups will provide additional inputs to the list of internal library goals since the library will become more aware of what it needs to satisfy its users.

Obviously, an analysis of library goals along the lines proposed here must be a paper and pencil exercise of protract-

ed length and not a theoretical discussion. Limited library resources alone, to say nothing of the inevitable contradictions between the utility factors of different user groups, must make the necessity for assigning priorities and making difficult decisions graphically clear. One of the significant benefits of using utility factors is the help it provides in decision making. For it not only makes the necessity of choice explicit but also indicates the impact of decisions on the goals of the library.

As an example, let us theorize that academic library X is faced with a demand by a group of students and faculty members to create a satellite departmental library. Satisfaction of the demanding groups is an element in the library's utility factor, but other elements in that utility factor include the following: the goal of satisfying other user groups whose satisfaction depends on having all materials available in one location, the goal of adding subject specialists to the reference staff before adding any other staff positions, and the goal of satisfying Dr. Y, chairman of the demanding group, who also serves as budget review officer for the library.

Taken to its conclusion, utility theory purports to be able to produce the best decision in a case such as this on the basis of mathematical calculations. While most librarians would probably be unwilling or unable to assign mathematical values to the variables and make the requisite calculations, most librarians would appreciate this kind of awareness of what is involved in the decision before making a judgment.

Perhaps the most important advantage of the deductive use of utility factors is the framework it establishes for dealing with library goals. It is the constraint imposed by working within the formulas which forces the library to identify that which is important to it in terms which remain meaningful for library practice. Once established, the utility factor of the library describes goals which must be achieved for success. Library behavior can then be designed as strategies to achieve those goals rather than to frustrate them.

Another advantage of this method is that it provides a means to evaluate library performance both on the individual and institutional level. Just as the success of the library can be judged on the basis of its achievement of the goals identified within its utility factor, the success of the librarian may be judged on the basis of his or her contribution toward achieving those goals. Note here the emphasis on total library goals as opposed to the goals of the individual librarian or the goals of an operating department within a library. It is the task of library management to assure that personal and departmental goals are congruent with those of the library as a whole. This process, while admittedly difficult, may become less baffling if approached in the same manner. Each staff member and operating agency within the library has a utility factor whose terms must be identified and dealt with.

The completed library utility factor should provide a new position from which to evaluate library behavior: a position which does justice to the true complexity of the situation, a position which is intelligible, and a position which spans the gap between theory and practice. Library success has been identified as the achievement of certain internal and external goals, and those goals have been identified in terms of specific behavioral objectives. Two tasks remain: first, the library must examine its present behavior to assure that it furthers rather than frustrates achievement of library goals; second, the library must introduce new modes of behavior consciously designed to achieve the goals that have been chosen.

Analyzing Library Behavior

The concept of utility maximization,

used inductively this time, may prove to be of some help in the evaluation of present library behavior. In fact, librarians and libraries who choose not to bother with the lengthy deductive process just described may still wish to adopt this method of evaluating library operations. The basic concept remains unchanged. Libraries, whether they realize it or not, act in such a way as to maximize their own satisfaction. Therefore, by examining library behavior as it now exists one can induce both the type of utility factor exhibited by the library and the identity of the terms within it.

Attention should first be directed toward the internal goals which the library seems to be serving. A convenient starting point for this analysis is the library budget since the allocation of financial resources indicates both a goal and a relative priority. Equally important, however, are library policies, procedures, statistical data and reports, and the actual conduct of library operations. Throughout the analysis the focus of attention must be on what the library is doing in terms of behavioral outcomes which can be determined objectively rather than on desired or anticipated results. And as the behavioral objectives are identified, the relative priority assigned to their achievement should be noted.

In all likelihood a behavioral analysis of this type would produce some disagreeable surprises. Policies and procedures designed to do one thing may in fact do something quite different. The library may also find that a disproportionate share of its resources and efforts are being spent on goals with only marginal importance. Furthermore, some objectives which the library has always espoused in theory may be conspicuous by their absence in practice.

The examination of the relationship between the library and its client population will be equally difficult. The library must identify the various groups and subgroups of library users and nonusers, and determine those whose satisfaction seems to be most important to the library on the basis of library behavior. Again the library may discover that it is in fact maximizing the satisfaction of some groups at the expense of other groups whose satisfaction is in theory more important.

Once the internal and external goals which are actually being served by the library have been identified, it becomes possible to generalize about the type of utility factor which characterizes the library. It is entirely possible that the library will be forced to conclude that it qualifies as a Type A, or independent, library. If so, library behavior will have been shaped by a dedication to internal goals so strong that it dominates the external goals. The library operates for its own sake rather than for the benefit of others. Such libraries are not unfamiliar to the casual or even trained observer. But in all probability this concentration on internal goals has not come about by design but by failure on the part of the library to maintain the connection between theory and practice.

The competitive aspect of library behavior, while not previously discussed, is nevertheless familiar to most librarians. Competition exists within libraries and library departments, between different libraries, and between libraries and other agencies and information sources. It is unlikely that competition would dominate library behavior to such a degree that it must be considered a Type C, or competitive, organization. But the analysis is apt to reveal more instances of behavior shaped by competition than the library either recognized or desired to exist.

Most libraries will, of course, reveal themselves to be Type B, or altruistic, institutions. And the goals which have been identified from the behavior of the library may be considered to constitute the library's utility factor.

This behavioral utility factor shows what goals the library is in fact working toward and must be reconciled with what the library believes it should be doing. Even if the theoretical goals of the library have never been articulated, the library should have an intuitive grasp of what it is trying to achieve. Library behavior which does not appear to further these aspirations should be modified.

If a library utility factor has been previously established, it is a relatively simple task to match the deductive formulation with that induced from the library's behavior. Where the utility factors agree, the library can be confident that it is working to achieve its goals; where they disagree, the library must either change its goals or its behavior.

When the concept of utility maximization and the utility factor is used deductively, it describes what goals the library wants to achieve in theory. When the same concept is used inductively, it describes what goals the library is achieving in practice. The differences between the two may be modest, or they may be enormous. In any case, awareness of the discrepancy between library goals and library behavior is a necessary first step in bringing them together.

References

1. Peter Fishburn, *Utility Theory for Decision Making* (New York: Wiley, 1970).
2. Robert L. Burr, "Librarians, Libraries and Librarianship; A Model," *Libri* 23:181–209 (1973).
3. R. T. Eckenrode, "Weighting Multiple Criteria," *Management Science* 12:180–92 (1965).
4. Milton Friedman and L. J. Savage, "The Expected Utility Hypothesis and the Measurability of Utility," *Journal of Political Economy* 60:463–74 (1952).
5. L. Thurstone, *The Measurement of Values* (Chicago: Univ. of Chicago Pr., 1959).
6. Morris Hamburg and William F. Matlack, "Maximizing Insurance Buyers' Utility," *Management Science* 14:B-294–301 (1967).
7. H. Johnson, *Business in Contemporary Society: Framework and Issues* (Belmont, Calif.: Wadsworth Press, 1971).

ALLAN D. PRATT

Libraries, Economics, and Information: Recent Trends in Information Science Literature

Four trends are noted in the information science literature: (1) much work in this field is being performed at or for academic libraries; (2) the concept of "information" as a process rather than a product is becoming more widely held; (3) both the economic and the conceptual "value" of information are under serious study; and (4) improved measures and models of bibliographic phenomena are being developed which reflect reality reasonably well.

OVER THE PAST SEVERAL YEARS information science and library science have been in some sense "competitive" with each other. Though the boundaries of both disciplines are ill-defined, and though each has aspects which are clearly distinct from the other, certain elements of each are indeed concerned with similar themes. It is the intent of this paper to demonstrate, through a survey of some of the recent literature of information science, the extent to which the two fields are mutually supporting and to suggest that this mutual support may lead to further progress in both.

While there is no generally accepted definition of information science, it is possible to adopt a tentative "definition by enumeration" by referring to the most useful literature survey in the field. A recent (seventh) *Annual Review of Information Science and Technology* (*ARIST VII* hereafter) provides comprehensive coverage of all those topics which are, in the judgment of the editors, relevant to information science.[1] It may therefore be assumed to give a reasonably accurate picture of the interests and concerns of the workers in the field; presumably the topics and the relative emphasis among them reflect, at least roughly, their perceived "importance" in some way.

To gain some sense of perspective on the field, it is useful to compare the coverage of different topics in this recent volume with that of the first, published in 1966, *ARIST I*.[2]

Broadly speaking, the chapters of both *ARIST I* and *ARIST VII* may be divided into four sections:

1. Planning Information Systems and Services
2. Basic Techniques and Tools
3. Applications
4. The Profession

In both the first and this recent volume, sections two and three comprise the bulk of the chapters—nine of thir-

Allan D. Pratt is a member of the faculty of the Graduate Library School, Indiana University, Bloomington, Indiana.

teen chapters, with 78 percent of the total references, in *ARIST I;* and ten of thirteen chapters, with 85 percent of the references, in *ARIST VII.* Between the first and seventh volume, however, there have been significant changes in the relative proportions of the sizes of these two sections. The citations in "Techniques and Tools" have decreased from 56 percent of the whole in *ARIST I* to only 25 percent in *ARIST VII.* On the other hand, the citations in "Applications" have increased from 22 percent to 61 percent of the total. Thus in the course of seven years, the applications literature has grown by a factor of almost three, while proportionately there is less than half as much literature relating to "Techniques and Tools."

Libraries

Much more of the recent applications literature is oriented toward "conventional" libraries than was the case earlier. Two of the six applications chapters in *ARIST VII* deal with libraries directly: "Library Automation," which has been a fixture since *ARIST I,* and "Library and Information Networks." Half of the latter chapter's citations explicitly refer to libraries (mostly academic), while the remainder range over such matters as satellite communications, cable TV, the relative merits of different types of equipment, and the like. In addition, a third applications chapter is devoted to "Machine-Readable Bibliographic Data Bases." Though "data bases" (bibliographic or otherwise) did not appear in the index of *ARIST I,* there is nearly half a column of such entries in the index of *ARIST VII.* This interest in bibliographic data bases strongly suggests that libraries are deeply involved in their development and use.

The same increased interest in libraries is evident in two other chapters of *ARIST VII.* A significant proportion of the citations in both "Costs, Budgeting and Economics of Information Processing" and "Library and Information Center Management" refers explicitly to libraries (again, mainly academic).

In view of this phenomenon in the literature, it seems safe to conclude that the "conventional" library, far from being displaced by information centers or other new institutions as some predicted, has become the significant "applier" of information science and technology. In the seven years since *ARIST I,* librarians, or at least those who publish for or about libraries, have grasped the nettle firmly.

Economics

A second theme which is becoming ever more prominent in the information science literature is economics. Threaded through various chapters of *ARIST VII* are the echoes of the remark in the introduction to Part I: "Perhaps the most influential restrictions on information activities are economic constraints."[3] While *ARIST IV* and *V* had chapters on "Library and Information Center Management," as does *ARIST VII,* the latter is the first to have a chapter devoted to "Costs, Budgeting and Economics of Information Processing." Though chapters in previous volumes dealt with the evaluation of information systems, these were primarily concerned with relevance, recall, and similar parameters, not cost/benefit ratios. There is an increasing emphasis on cost accountability even in those organizations nominally nonprofit, e.g., the requirement that Department of Defense information agencies recover half their operating costs from use charges.[4]

This emphasis is becoming evident also within academic libraries. Buckland has sketched the beginnings of a "theory of the library" analogous to the economists' "theory of the firm," which, if developed, may form some basis for a better understanding of the economics

of information.[5] Some may feel that he has exercised excessive caution in attempting to avoid the assertion that libraries are a form of business, but his caution is understandable. If he stated flatly that libraries can and should be managed like businesses, the emotional reaction of his readers might well prevent their understanding the point he is making.

Another obvious indication of this increased interest in economics is the formation of the Information Industries Association (IIA) in 1969. This trade association consists of organizations, mostly profit-making in aim if not in fact, most pragmatically concerned with the value of information. One of the more interesting members of IIA is the FIND service in New York, which provides what is essentially telephone reference service to corporate customers. It claims to be able to "cost-account" reference service, which librarians have traditionally claimed to be either extremely difficult or impossible.[6] The validity of the claim will soon be reflected in FIND's profit and loss statements.

Other evidence of the new emphasis on economic matters was the theme of the 1973 ASIS convention: "Information: Benefits and Costs." This is a good deal more realistic than many previous conference themes, which tended to be somewhat grandiose: "A World of Information" (1972); "Communication for Decision Makers" (1971); or "The Information Conscious Society" (1970).

Information

In parallel with the increased emphasis on pragmatic economics in "real-world" libraries, there has been a notable increase in theoretical attempts to quantify, or at least to define more accurately, the "worth" of information.

In order to do so, it has first been necessary to overcome the conceptual obstacles presented by the view which Fairthorne termed the "Phlogiston Theory of Information": that "information is the name of some universal essence that can be squeezed out of texts like water from a sponge."[7] There is, encouragingly, less tendency than formerly to speak of "information" as though it were some form of intellectual electricity flowing through mental or social circuitry. The distinction between recorded discourse and the process of becoming "informed" is being more widely recognized.

That this should happen is understandable, because it is difficult to make sense of the notion of the "worth" of information or anything else without considering the question "Worth to whom, and under what circumstances?" While "the user" has always been an important consideration, at least in a statistical sense, in information systems design, it is only recently that the user as an individual has become an important element in the direct measurement of "amount of information."

One of the early papers recognizing the importance of the individual in this context was Ackoff's in 1958.[8] He defined three different kinds of messages: those which inform, those which instruct, and those which motivate a purposeful individual. The "amount" of information, instruction, or motivation related to a particular message received by this individual is a function not only of the message but of the individual's prior state. This same point has been repeatedly made by Fairthorne in various contexts. It was also made, in a tentative and informal way, by Pratt in 1967.[9]

Mitroff, Williams, and Rathswohl have constructed a model of a "Dialectical Inquiring System,"[10] the mathematical formulation of which is based on Ackoff's 1958 paper. They indicate divergencies in their viewpoint from that given in Yovits' 1969 paper in which he proposed that "information is data of use in decision making," and sketched out a model based on that defi-

nition.[11] However, the more recent work by Whittemore and Yovits suggests that the two conceptual structures are rather close, at least in some major respects.[12] There are strong similarities between Mitroff's "purposeful individual" who is moved from state S_1 to state S_2 and the DM (decision maker) of Whittemore and Yovits. The latter authors suggest six different varieties of uncertainty, none of which correspond to the classic "uncertainty" of the Shannon/Weaver model. What Whittemore and Yovits call "executional uncertainty" is broadly the same as Ackoff's "efficiency" variable incorporated into Mitroff's model.

The differences between these two conceptions seem to lie, at least in part, in the differing underlying aims. Mitroff speaks of "inquiry" with its connotation of more or less detached and philosophical ends, while Yovits' concept of a DM has a much more aggressive implication. It is rather as if the former is trying to model Bertrand Russell while the latter is trying to model J. P. Morgan.

Other indications of this more direct involvement of the individual in the "information" process can be found in recent work. Cooper proposes a conceptually simple, though methodologically difficult, measure based on the point that "there can be in principle no better evaluation . . . of a retrieval system's benefits than a subjective evaluation by its users, provided that such an evaluation is made with all due care and is measured judiciously in terms of an appropriate utile."[13] Some means of making his subjective evaluation method operationally viable are described in a more recent paper.[14]

Simon, in a quite different context, brings up the same general theme.[15] His point is that the critical resource is *not* "information" (which Yovits would call "data") but attention—that the decision maker (or inquirer or user) cannot afford to devote enough of his limited time to "attend to" all the data available. Thus, effort needs to be placed not on data gathering, but on organizing it. "Memories [including libraries, etc.] as components of information-processing systems, need to be viewed as stores of *potential* information, which, if indexed effectively, can become available at a reasonable cost whenever it is needed as input to a decision-making process."[16] (Emphasis in original.)

Measurement

Some recent applied mathematical work is progressing along parallel, or at least related, lines. There is, in addition to the mathematics associated with the cost-accounting problems noted earlier, a growing tendency to concentrate on the mathematical description of phenomena which are in fact quantifiable, a change from efforts in earlier years which purported to measure "relevance" to three decimals. One seems on firmer ground when measuring citations, volumes, journals, circulations, and the like than when measuring relevance.

In particular, there seems to be a growing belief that many bibliometric phenomena and their interrelationships may be described by some forms of exponential or logarithmic functions. The most general statement along these lines is Price's remark that

> . . . it turns out roughly that the true measure of value is not measured by the crude magnitude, but by its logarithm. A collection of related books or journals or papers gains the same degree of utility in going from 100 items to a thousand as in going from 1000 to 10,000 or from a million to ten million.[17]

This characteristic has been implicit for some time in the various studies of the distribution of journal articles in certain fields, under the general name of the Bradford-Zipf distribution. Williams found that the demand for periodical titles was well described by the

lognormal distribution (in which not the value of the variable under consideration, but its logarithm to some convenient base—usually *e* or 10—is normally distributed).[18] Palmour, Williams' co-worker, has stated that the same function predicted demand for documents at NTIS as well.[19]

Resnikoff and Dolby have found that the five-year circulation pattern of Harvard's Widener Library approximates a lognormal distribution fairly well.[20] (Incidentally, it was found that only 6 percent of the collection had circulated at least once during that time.) Resnikoff and Dolby have also used the Whitworth distribution, the discrete analog of the continuous logarithmic function, to describe the distribution of books over subject classes.[21] Relationships between the Log-Log (Zipf) distribution, the Whitworth, and the log-linear have been pointed out by Griffith and Krevitt.[22] Naranan has generalized some of these distributions in terms of power laws.[23]

These forms of distribution have been found useful, not only in studies of journals and citations but in circulation studies as well. In addition to the Resnikoff and Dolby work noted earlier,[24] Trueswell found similar distributions in his study of libraries at Northwestern.[25] He was able to make reasonably accurate predictions of collection use from his models, and found that something in excess of 50 percent of the collection could be removed with little impact on the user satisfaction level.

It appears that these power-function distributions underlie a large range of phenomena related to bibliographic and information science phenomena. They are of interest not only because they may provide some empirical support for the theories mentioned above but because they may have direct applications in quantifying some aspects of librarianship.

There has been no recent explication of these distributions published for the benefit of those who are more literate than "numerate." Fairthorne's historico-bibliographic essay of 1969 is the only paper which summarizes work up to that time in reasonably nonmathematical terms.[26] There is need of a similar effort covering the last five years because if the applied mathematics is to be in fact applied, it must be understandable to those who would apply it.

Summary

This examination of recent information science literature suggests the emergence of four trends which may be indicators of new directions:

1. Much of the research and development work in information science is being conducted by, for, or under the direction of "conventional" (mainly academic) libraries.
2. There is increasing awareness that "information" is not a property of documents but a complex relationship between (at least) message and recipient.
3. There is serious consideration being given, on both a theoretical and an applied level, to the question of the "worth" of information.
4. There is some progress being made in bibliometrics—the development of means whereby one can measure and predict library-related phenomena with models which reflect reality reasonably well.

These trends, if continued, may raise information science from the low level to which Saracevic felt it had fallen by 1971. In five years of work, he asserted, "The basic literature information problems were not solved, or even dented, especially in comparison to the efforts and money invested."[27] There is room for cautious hope that some small dents may soon appear.

REFERENCES

1. Carlos A. Cuadra, ed., *Annual Review of Information Science and Technology* [Hereafter referred to as *ARIST*] *Volume 7, 1972* (Washington, D.C.: American Society for Information Science, 1972).
2. Carlos A. Cuadra, ed., *ARIST, Volume 1, 1966* (New York: Wiley, 1966).
3. Cuadra, *ARIST, Volume 7, 1972*, p.4.
4. Ibid., p.39.
5. Michael Buckland, "Toward an Economic Theory of the Library," in Robert S. Taylor, ed., *Symposium on the Economics of Information Dissemination* (Syracuse, N.Y.: Syracuse Univ. Pr., in press).
6. Paul Doebler, "Seek and Ye Shall FIND," *Publishers' Weekly* 202:79–80 (Oct. 16, 1972).
7. Robert A. Fairthorne, " 'Use' and 'Mention' in the Information Sciences," in Laurence B. Heilprin, Barbara E. Markuson, and Frederick Goodman, eds., *Proceedings of the Symposium on Education for Information Science, Warrenton, Virginia, September 7–10, 1965* (Washington, D.C.: Spartan Books, 1955), p.10.
8. R. L. Ackoff, "Towards a Behavioral Theory of Communication," *Management Science* 4:218–34 (1958).
9. Allan D. Pratt, "An Essay on the Nature of Information," *Proceedings. American Documentation Institute. Annual Meeting, Volume 4.* (Washington, D.C.: Thompson Book Company, 1967), p.3–7.
10. Ian Mitroff, James Williams, and Eugene Rathswohl, "Dialectical Inquiring Systems," *Journal of the American Society for Information Science* 23:374–78 (Nov.-Dec. 1972).
11. M. C. Yovits, "Information Science: Toward the Development of a True Scientific Discipline," *American Documentation* 20:374–76 (Oct. 1969).
12. Bruce J. Whittemore and M. C. Yovits, "A Generalized Conceptual Development for the Analysis and Flow of Information," *Journal of the American Society for Information Science* 24:221–31 (May-June 1973).
13. William S. Cooper, "On Selecting a Measure of Retrieval System Effectiveness," *Journal of the American Society for Information Science* 24:100 (March-April 1973).
14. William S. Cooper, "On Selecting a Measure of Retrieval Effectiveness. Pt II," *Journal of the American Society for Information Science* 24:413–24 (Nov.-Dec. 1973).
15. Herbert Simon, "Applying Information Technology to Organization Design," *Public Administration Review* 33:269–70 (May-June 1973).
16. Ibid., p.272.
17. Derek J. De Solla Price, "Some Remarks on Elitism in Information and the Invisible College Phenomenon in Science," *Journal of the American Society for Information Science* 22:74 (March-April 1972).
18. Gordon Williams et al., *Library Cost Models: Owning Versus Borrowing Serial Publications* (Chicago: Center for Research Libraries, 1968). (PB 183 304).
19. Vernon Palmour, Personal communication, June 21, 1972.
20. H. L. Resnikoff and James L. Dolby, *ACCESS: A Study of Information Storage and Retrieval with Emphasis on Library Information Systems* (Los Altos, Calif.: R & D Consultants Company, 1971). (ED 050 773).
21. H. L. Resnikoff and James L. Dolby, "On Archival Access," in Jeanne B. North, ed., *Proceedings of the American Society for Information Science, Volume 7: The Information Conscious Society* (Washington, D.C.: American Society for Information Science, 1970), p.255–64.
22. Belver C. Griffith and Beth Krevitt, "A Comparison of Several Zipf-Type Distributions in Their Goodness of Fit to Language Data," *Journal of the American Society for Information Science* 23:220–21 (May-June 1972).
23. S. Naranan, "Power Law Relations in Science Bibliography—A Self-Consistent Interpretation," *Journal of Documentation* 27:83–97 (1971).
24. Resnikoff and Dolby, *ACCESS*.
25. Richard W. Trueswell, "Determining the Optimal Number of Volumes for a Library's Core Collection," *Libri* 16:49–60 (1966).
26. Robert A. Fairthorne, "Empirical Hyperbolic Distributions (Bradford-Zipf-Mandelbrot) for Bibliometric Description and Prediction," *Journal of Documentation* 25: 319–43 (1969).
27. Tefko Saracevic, "Five Years, Five Volumes and 2345 Pages of the *Annual Review of Information Science and Technology*," *Information Storage and Retrieval* 7:138 (Sept. 1971).

GAY WALKER

Preservation Efforts in Larger U.S. Academic Libraries

A survey of preservation activities in large U.S. academic libraries revealed widespread problems of deterioration of library materials. The majority of respondents have developed some countermeasures, and various procedures are examined. Recommendations are made for establishing a preservation unit. It is evident that further communication in this area is seriously needed.

THE PHYSICAL DETERIORATION OF LIBRARY MATERIALS is a critical problem facing academic libraries everywhere. Acid impurities introduced during paper production since the mid-nineteenth century and assimilated since from air pollutants cause a breakdown of the cellulose molecule and ultimate total deterioration of the paper. Harmful environmental conditions, such as heat and humidity extremes, aid in this destruction.[1] The deterioration problem is often assigned a low priority due to insufficient funds or personnel and the lack of large-scale technical solutions. The importance and support accorded preservation efforts must increase if library collections so carefully developed over the last hundred years are to last beyond the coming generation of users.

Book conservators and researchers are developing long-term preservation measures such as deacidification for important materials.[2] Two of the largest nonacademic libraries, the New York Public Library and the Library of Congress, have established comprehensive conservation sections, the latter with its own research laboratory. Unfortunately, there are so far few academic libraries able or rich enough to institute these techniques to preserve large numbers of volumes in poor condition. Realistic alternatives to restoration have been implemented at various libraries, including reproduction, replacement, and withdrawal of deteriorated materials. This article presents the results of a survey, conducted in 1972, which confirms the existence of preservation efforts, their magnitude, and procedures. The questions asked were developed from experience in the Preservation Project at the Yale University Library.

Questionnaires were sent to 115 academic libraries, all with holdings of 500,000 volumes or more. Eighty-six libraries, about 75 percent, replied, and many expressed a deep concern over preservation problems.

EFFORTS UNDERTAKEN

Sixty-two libraries, or 72 percent, reported some preservation procedures. Although many are small "repair or reshelve" operations, a few have devel-

Gay Walker is preservation librarian, Yale University Library, New Haven, Connecticut.

oped more sophisticated programs of replacement, reproduction, withdrawal, and special repairs.

Though deterioration was not a problem for a few recently opened or smaller libraries, several larger libraries indicated severe budgetary limitations which prevented any preservation action. At least four libraries have independent preservation operations with one or more persons engaged primarily in preservation activities of an organizational and decision-making nature. Thirty-nine libraries reported preservation activities associated with technical services, and fifteen reported preservation activities associated with circulation.

All programs handle high-use items in disrepair; forty libraries use stack checks to discover other items needing preservation attention; twenty libraries use inventory; and twenty-five rely upon staff reports. Most titles processed are recently circulated items. Two libraries expressed plans to check systematically through their entire collection for deteriorated materials. It should be noted that twenty-one libraries have never taken a full inventory; and the majority give lower priority to items in storage collections.

Patron or staff recommendations on deteriorated items are generally acted upon. Consultation with subject specialists concerning such materials is generally done only in special cases.

Most libraries check the condition of other copies or editions of a deteriorated item before deciding on its disposal. The reprint remains the most attractive form of replacement for both the deteriorated monograph and serial and is twice as popular as out-of-print searching in the case of monographs. The main drawback cited for reprints is high cost, although bibliographic accuracy presents problems.

One librarian commented, "Replacing a book with another from the same printing is in general senseless in that the life expectancy of the second is also low." Microfilm and microfiche were acceptable to fewer libraries.

Almost all participating libraries attempt to replace out-of-print deteriorated volumes. While a few discard the originals outright and some leave them on the open shelves, the majority of libraries keep the originals in storage areas or "brittle book collections" until the replacement arrives. One library's solution for deteriorated volumes difficult to replace is to put the book in a pamphlet binder "so that it is available as long as possible." Approximately one-third of these libraries resell some of the withdrawn volumes.

At least two libraries have a separate preservation budget for replacements and reproductions, and seven use in-house reproduction facilities to produce replacements.

The large majority of the libraries surveyed attempt to replace serials which are beyond repair, and most own partial serial runs on film. It is more popular to use film for serial than for monographic replacement although reprints are still the first choice.

Attempts are generally made to identify fragments while books with missing pages are either replaced or completed by photocopying. No libraries are using technological preservation methods on a large scale in their main collections, and only one indicated immediate plans for such a step. That library planned the use of the vapor phase deacidification process.

The numbers of deteriorated volumes processed illustrate the casual approach to preservation taken by most large academic libraries. Thirty-two libraries handled less than 300 such volumes per year. Only one library estimated that the deteriorated items processed annually came to more than 1 percent of the collection. Four libraries, however, maintained records and processed more than 1,000 volumes yearly in an aggressive

and systematic attack on the deterioration problem.

A Model Preservation Program

Although every library is dealing with a slightly different situation in terms of book deterioration, many aspects of establishing a preservation program can be generalized. What follows is an outline of some of the goals, considerations, and processes thought important by this author in setting up a preservation program.

Initial planning for a preservation program should insure a thorough, coherent approach to the many aspects of preservation which affect all sections of the library and may include binding, repair, reprography, and collection management along with the actual preservation section. It is ideal to have one person in charge of the operation who will concentrate on overall organization and special projects, keep criteria consistent, establish priorities, and guide decision making. This person should have the necessary authority to establish procedures and implement decisions and should be responsible for keeping informed on new developments, educating staff and patrons, planning for emergencies, and recommending preventive environmental conditions and procedures for the entire library system. Many departments will be affected, and both budgetary and organizational changes should be anticipated. Independence for the preservation program is recommended, but it may be necessary to start in association with another department. The circulation department can identify deteriorated items after circulation and will know high-use areas and collection idiosyncrasies. Other departments, such as cataloging or binding, may provide equally helpful connections for preservation efforts.

One of the first steps should be a survey of stack conditions to determine the scope of the problem. This will aid in planning the actual program, its housing and personnel, and the involvement of other departments. It will also aid in providing hard facts for budgetary consideration. Another early step should be the formulation of a preservation policy which establishes criteria and goals.

Deteriorated items are most easily identified after use by circulation personnel. Focusing on these high-demand items is an obvious priority, although many research items receive little use but may be of critical importance. An inventory, while clearing up missing-book problems, can also be used for identifying deteriorated volumes.

Each deteriorated item should be reviewed with certain information available: its relation to the collection and its commercial availability in reprint or microform. After making a record for the item to allow bibliographic control and user access, a search form should be made which will ultimately contain all necessary information about that item. Relevant volumes (other editions, duplicates, rest of the set) should be examined for condition where possible. For instance, if an exact duplicate in good condition is held, the deteriorated copy might be withdrawn unless the use pattern suggests duplication. Items with poor paper which cannot be repaired should be searched in the trade bibliographies to determine availability.[3] With this information, an acceptable decision on the disposal of research materials can be made by the appropriate bibliographer, curator, or subject specialist. If criteria for peripheral materials (such as mysteries, certain subject areas) are clear enough, a decision may be made without this additional information.

The decision-making process, though unique for each library, must be cooperative. The head of the preservation unit should act as a check, obtaining second opinions where necessary and maintaining a consistent approach to all materials. The disposal options should be

made clear to the specialist consulted, and comparative costs of alternatives should be available. Each volume must be reviewed, the bulk usually by the bibliographers or book selectors or a staff specialist. Curators of special collections and branch librarians are also important consultants. The request for recommendations on particular titles from faculty specialists encourages interest and can provide valuable expertise as well. Weeding routines may provide useful aids, especially in terms of consulting procedures.

Monographs

Decisions must be made for each monographic title based on its value and relation to the collection. Postponing action on identified volumes in poor condition or even tying or boxing items to last "as long as possible" is a disservice to the research collection. Titles already part of the collection may be as important as new additions, and it is fair to make decisions on a competitive basis with new acquisitions. However, it appears preferable to set aside funds specifically for preservation replacement, reproduction, and repair so that the value and position of each book may be given the fullest consideration. A separate "brittle book" collection does not solve the problem of deteriorated items and may result in total loss. Storage collections may become "poor paper depositories," so criteria for storage should be carefully examined.

The alternatives available for decision making may vary with each library as many options are dependent upon additional funds or special personnel. The major options are to repair, rebind, replace, reproduce, withdraw, or reshelve. The need for complete freedom in the choice of alternatives is evident. The repair or rebinding of an item depends on the condition of the paper, cost, and familiarity with the binders who serve the library. It may be more feasible to replace a research item with a reprint than undertake expensive repair work. Criteria for rare and semirare books will, of course, be different, and consultation with the appropriate specialist is necessary. The workload from these two categories must be reviewed with the binding unit to set up a tenable routine.

Facsimile reprints are generally the most satisfactory replacement format. The advantages of reprints are many: paper used for reprinting is often longer-lasting (such as the permanent/durable paper developed by the Barrow Laboratory which should last at least 300 years);[4] the format is identical to that of the original; printing is on both sides of the page; and the book is bound and easy to use in the conventional format. The retention of deteriorated materials until they are physically replaced is critical to the continued availability of the text. Direct control should be maintained over deteriorated items awaiting replacement; a special area is best, with controlled user access, no circulation, and supervision of the physical and record withdrawal. Experience has shown that out-of-print searching for exact replacements of deteriorated materials should be avoided due to similarity in paper conditions and the unjustified expense in obtaining, at best, a very temporary solution.

If deteriorated items are needed and not available commercially, hard copy reproduction (with due respect for copyright restrictions)—either by photoduplication, using permanent/durable paper, or by the more expensive enlarged paper copy method from a negative microfilm—is necessary. Microfilming is usually the second choice, depending on the nature of the item, how large it is, and its use in the collection.

It is helpful to have a written policy outlining general criteria for withdrawal (such as off-prints, out-of-scope, low-use duplicates, mysteries, or areas of branch library responsibilities), but in-

dividual judgments should be made in each case. Books withdrawn or replaced should have call numbers and plates marked out and date slips removed immediately. Otherwise, books are likely to turn up on the shelves again. Resale of suitable items via library sales or dealers can be economically beneficial to the library.

Personnel involved in preservation must be careful to avoid being overzealous. Does the item really require attention, or can it be reshelved or labeled only? Experience will be the best guide to choosing items needing immediate attention.

Serials

Deteriorated serial volumes present other difficulties as the condition of the whole run may be poor. When repairs are not sufficient or feasible, the preservation decision must be made on the basis of use, availability of replacement, and value. The ideal disposal decision will take into account the condition of the entire run, to avoid later duplication of effort. The more popular serial titles are sometimes in print, but titles of highly specialized research value must be carefully preserved or reproduced (with due regard to copyright restrictions). Cooperative reproduction or transfers are attractive possibilities. Serials can be accumulated and the complete run of each title checked as to physical condition. In this way, cost estimates can be made for the alternatives on every title. Replacements would be chosen according to value and the state of the run; if the whole run is poor, it might be placed on microfilm while one or a few poor volumes might be replaced by hard copies. The replacement for any item read as a single unit and receiving at least moderate use may be preferable as a hard copy.

It is best to attempt identification of fragments immediately upon receipt as they are an indication of worn or deteriorated material which should be processed as soon as possible to prevent further loss. Interlibrary loans may be used to copy missing pages, and it is best to use permanent/durable paper for all such photocopying.

Other Considerations

A general "awareness campaign" for both staff and patrons will greatly benefit preservation efforts and encourage involvement. Educational activities such as tours, exhibits, hand-outs, bibliographies, or "Conservation Days" will serve as good advertising and may bring valuable help from faculty and other specialists. Preservation activities are critical to the research collection and provide service of immediate benefit to both patrons and staff, and a clear understanding of the program is important.

Few libraries have fully documented their preservation efforts.[5] The maintenance of careful statistical records is essential for preservation activities and should be a basic requirement. Each library has apparently developed its own standards and criteria for decision making for deteriorated items, and though one policy would be impractical for all libraries, with their differences in budget, manpower, and philosophy, perhaps helpful guidelines may be drawn up to help the organization of preservation programs at other libraries in the future.

Conclusion

The deterioration of library materials is of critical proportions for large American academic libraries. As this problem becomes more apparent to library administrators, more separate preservation programs will be established. Some suggestions have been made for the establishment of a preservation unit on a small scale. The survey reported here shows that many independent approaches have been made in handling deteriorated library materials

but that only three or four academic libraries have instigated preservation programs to deal with the problem in its entirety. These libraries should communicate their findings and methods of operation so others may benefit from past experiences. Such cooperation is essential for a successful, on-going campaign to preserve library collections.

References

1. The two-volume title by George Cunha and Dorothy Cunha, *Conservation of Library Materials* (2d ed.; Metuchen, N.J.: Scarecrow, 1971), gives an excellent overview and bibliography for the entire field of preservation including storage conditions. A comprehensive scientific essay on storage conditions can be found in Carl Wessel, "Environmental Factors Affecting the Permanence of Library Materials," in Howard W. Winger, ed., *Deterioration and Preservation of Library Materials* (Chicago: Univ. of Chicago Pr., 1970), p.39–84. A good discussion of the subject in layman's terms is presented by Paul Banks, "Environmental Standards for Storage of Books and Manuscripts," *Library Journal* 99:339–43 (Feb. 1, 1974).
2. In particular, see papers by Richard Daniel Smith on paper preservation and deacidification, especially his "Paper Impermanence as a Consequence of pH and Storage Conditions," *Library Quarterly* 39:153–95 (April 1969).
3. See Alfred Lane, "Reprints in the Preservation Picture; And a Drift Aside," *Special Libraries* 63:305–9 (July 1972).
4. See the works by William J. Barrow and his laboratory, especially the series entitled *Permanence/Durability of the Book* (Richmond, Va.: W. J. Barrow Research Laboratory, 1963–1969), I–VI. A good overview of the paper problem and its history can be found in Verner Clapp, "The Story of Permanent Durable Book Papers, 1115–1970," *Restaurator* (Supplement 2; 1972), p.1–51.
5. The following are relevant works on local preservation programs: Hannah B. Friedman, "Preservation Programs in New York State: Existent and Non-existent," *Special Libraries* 60:578–89 (Nov. 1969); Hannah B. Friedman, "Preservation of Library Materials: The State of the Art," *Special Libraries* 59:608–13 (Oct. 1968); James W. Henderson and Robert G. Krupp, "The Librarian as Conservator," *Library Quarterly* 40:176–92 (Jan. 1970); and Frazer G. Poole, "Preservation Costs and Standards," *Special Libraries* 59:614–19 (Oct. 1968).

SUSANNE PATTERSON WAHBA

Job Satisfaction of Librarians: A Comparison between Men and Women

The significance of studying the job satisfaction of librarians is discussed. The study concentrates on a comparison of the job satisfaction of men and women librarians. Data were collected by means of the well-validated Need Satisfaction Questionnaire (NSQ) which was developed to reflect Maslow's "Hierarchy of Needs." The sample included 202 men and women librarians from twenty-three college and university libraries. A t test was used to determine the difference between men and women librarians' job satisfaction. The results show that men and women attached the same importance to security, social, and self-esteem needs. Women regarded autonomy and self-actualization needs as having lower importance than did the men. Women were more dissatisfied than men in all need categories (security, esteem, autonomy, and self-actualization needs) with the exception of social needs, which were similar for both men and women. The results point to the need to alleviate differential treatment in the work environment of men and women librarians.

THE JOB SATISFACTION AND MOTIVATION of many professional and nonprofessional groups (accountants, engineers, middle managers, insurance agents, research scientists, Air Force officers, evening students, telephone operators, assembly workers, and nurses) have been studied by many behavioral scientists in the last two decades.[1] One group of professionals, however, which has been virtually ignored is that of librarians. This is unfortunate because most of the studies of job satisfaction have concluded that job satisfaction differs from occupation to occupation, and that there is a definite need to study the job satisfaction and motivation of distinct professional groups independently one from another. From the research findings it is apparent that the determinants of job satisfaction are different for different occupational groups.[2] For example, work itself was found to be a significant determinant of job satisfaction for engineers, but not for accountants, while promotion was found to be more important for accountants than scientists. There are numerous other examples of this difference in factors determining job satisfaction among different occupations.

In an earlier paper the author has reported on the study of the overall job satisfaction of librarians.[3] The purpose

Susanne Patterson Wahba is assistant professor, Baruch College, the City University of New York.

of the present paper is to compare and contrast the sources of satisfaction and dissatisfaction of men and women librarians. One recent trend in the study of job satisfaction in general has been a comparative analysis of the need satisfaction of men and women. For example, Benge, Stockford and Kunze, and Chase reported that women are more satisfied with some aspects of their job than men; while Peck, Cole, and Hulin and Smith reported the opposite trend—namely, that women are less satisfied with their jobs than men.[4–9] Needless to say, the need to compare the satisfaction of men and women is crucial in librarianship due to the fact that both sexes are heavily represented in the profession.

Previous studies of job satisfaction comparing men and women have attempted to measure job satisfaction with respect to some aspect of the job, for example, working conditions, nature of the work, supervision, pay and promotion, etc., rather than to measure job satisfaction in relation to the individual's need system and degree of need satisfaction received from the job. It was Abraham Maslow who proposed a theory of human needs.[10] Maslow contended that human needs array themselves in hierarchies of prepotency. As one need is satisfactorily fulfilled, it is replaced by another. Man continually seeks to gratify some need. Maslow characterized these needs as:

Self-actualization and autonomy: the opportunity for self-fulfillment and accomplishment through personal growth and development;

Esteem: the prestige received from both within and outside the organization;

Social: the requirement for affectionate relations with others;

Security: the feeling of freedom from anxiety; and

Physiological: the requirement for food, clothes, shelter, sex, etc.

Maslow regards these five sets of needs as being in a definite hierarchy but not in an all-or-none relationship to one another. He contends that decreasing percentages of satisfaction are encountered as a lower-level need is replaced in predominance by a higher-level need. Specifically, Maslow's theory proposes that there are basic or primary needs, such as food, water, and sleep, which the individual satisfies first (physiological and security needs). After accomplishing this, the individual turns to the so-called higher-order needs, such as need for affiliation (social) and esteem. Finally, if the individual has achieved some degree of satisfaction in both physiological and social needs, he may then spend some effort in trying to satisfy the needs of highest order; that is, autonomy and self-actualization needs.

The approach which considers job satisfaction in relation to the individual's need system may make it possible to reconcile the contradictory findings of the prior results of the men–women differential. Further, the knowledge regarding the differences between the structure of needs of men and women librarians is valuable in other aspects of work behavior and attitude.

The purpose of the present paper is to compare the perceived degree of need fulfillment and need deficiencies of men and women librarians. The study will also contrast the importance of these needs as viewed by men and women.

Method

Instrument

The data for this study were obtained by using a slightly modified version of Porter's Need Satisfaction Questionnaire (NSQ).[11] The NSQ has been used in almost all of the prior studies dealing with the comparative analysis of various groups with regard to the perceived need satisfaction, need fulfillment, and need importance. The NSQ consists of thirteen items reflecting Mas-

low's need classification scheme. In particular, the NSQ includes the following needs: security, social, esteem, autonomy, and self-actualization. Originally, Porter reported no reliability data about the questionnaire; later, Porter and Lawler validated the NSQ.[12] For each of the items of the NSQ, subjects are asked to give three responses:

1. How much of the characteristic is there now?
2. How much of the characteristic do you think there should be?
3. How important is the characteristic to you?

Each response is made on a seven-point scale with high value representing maximum points.

As constructed, the NSQ provides three types of scores:

1. The need fulfillment score, consisting of the response to part one of each item, dealing with what is now. The higher the value of the need fulfillment score, the higher the perceived satisfaction and vice versa.
2. The need deficiency score, consisting of the difference between part two and one of each item, that is, the difference between what should be and what is now. The higher the need deficiency score, the higher the deficiency or the dissatisfaction of the need and vice versa.
3. The perceived need importance score, consisting of the response to part three of each item. The higher the need importance score, the higher the importance of the need and vice versa. Recently, several authors have shown that efforts to improve the measure of satisfaction by accounting for the importance usually fails.[13] Consequently, many writers including Porter and Lawler have ignored this part of the NSQ.[14] However, the score for the importance scale will be used in this study, not to measure need fulfillment or deficiency but rather to explore sex difference in the judged importance of various needs.

Sample and Procedure

The sample included 202 librarians from twenty-three academic libraries. To ensure the feasibility of the study, the sample included only libraries from the greater New York Metropolitan Area whose directors had initially agreed to participate in the study. It was determined that a similar number of responses should be obtained from each library to avoid biases in the sample due to size. This procedure seems to be standard for carefully designed studies of this nature. It should be noted, however, that most studies on this subject have utilized a smaller sample and a fewer number of organizations. It was determined that the inclusion of a large number of libraries would provide a stronger basis for generalization of the findings. Demographic data for the sample (e.g., age, experience, etc.) showed relatively wide variance.

The questionnaires were distributed individually to all the department heads in each library. Accompanying the questionnaire was a letter of introduction from the library's director explaining that the library had been asked to participate in an academic research project and that the library had agreed to cooperate. The letter emphasized that participation was voluntary, but each librarian was strongly urged to cooperate, especially since individual responses would not be available to the library administration. Participants were not asked to sign their names to the questionnaires. A stamped, self-addressed envelope was included for respondents to mail the questionnaires directly to the researcher.

Results

Table 1 presents the mean and the standard deviation for the need fulfillment for each need category for men and women and the *t* value for signifi-

TABLE 1

MEAN AND STANDARD DEVIATION FOR NEED FULFILLMENT FOR EACH NEED CATEGORY FOR MEN AND WOMEN

Group	Security M	Security SD	Social M	Social SD	Need Esteem M	Need Esteem SD	Autonomy M	Autonomy SD	Self-Actualization M	Self-Actualization SD
Men	5.45	1.54	5.33	1.23	5.16	1.081	5.04	1.49	5.23	1.33
Women	5.57	1.55	5.14	1.28	4.65	1.26	4.38	1.44	4.88	1.43
t value	.48		−.948		−2.86°		−2.79°		−1.596	

° $p < .01$

cance of difference between means. As pointed out earlier, the higher the need fulfillment score, the higher the need satisfaction since it represents the response to what is now. The statistical significance of the differences between the means of men and women was determined using a *t* test. The results in Table 1 show that women express lower need fulfillment than men statistically significant at $p < .01$ in two need categories: esteem and autonomy. Men and women showed a similar level of fulfillment in security and social needs. Also, women expressed lower fulfillment in self-actualization needs, but the mean difference was not significant. The range of need fulfillment for women (4.38–5.57) is larger than that of men (5.04–5.45), indicating that women experience comparatively uneven levels of satisfaction in various needs. From Table 1, it is also evident that men and women experience decreasing levels of need fulfillment as we move on Maslow's need hierarchy from lower to higher needs (e.g., security, social, esteem, self-actualization, and autonomy). It should be noted that autonomy, rather than the self-actualization need, is the least fulfilled need for both men and women. The security need is the highest fulfilled need for both men and women librarians.

Table 2 presents the means and the standard deviations of need deficiencies for each need category for men and women and the results of a *t* test for significance of difference between means. It should be recalled that need deficiency is the score difference between what is now and what should be. Consequently, the results for need deficiency are not completely independent from the results for need fulfillment as shown in Table 1. Nevertheless, need deficiency scores are rather important because they are considered by many authors as more likely to determine the behavior of the individual.[15] Table 2 reveals some interesting aspects of the difference between the need deficiency of men and women librarians by considering the means of each need category. Women have significantly higher deficiencies than men in four areas: security, autonomy, esteem, and self-actualization needs (*t* test $p < .01$). It is interesting to note that both men and women showed a similar level in the fulfillment of social needs as shown in Table 2. The difference between the degree of the fulfillment of the security need and the deficiency in it, for women, can possibly be explained by the stronger desire or expectation (the should-be scale) for a higher degree of security for women than for men. Both men and women report the same level of deficiency as far as social needs are concerned. For men, security is the least deficient need, while self-actualization is the most deficient need. For women, the least deficient need is the social need, while the most deficient need is self-actualization (like men). Another interesting aspect in Table 2 can be inferred from the variability in need deficiency. The standard de-

TABLE 2

NEED DEFICIENCIES FOR EACH NEED CATEGORY FOR MEN AND WOMEN

Group	Security M	Security SD	Social M	Social SD	Need Esteem M	Need Esteem SD	Autonomy M	Autonomy SD	Self-Actualization M	Self-Actualization SD
Men	.30	3.06	.65	1.060	.79	1.85	.93	1.76	1.06	2.03
Women	1.06	2.46	.61	1.35	1.060	1.41	1.41	1.51	1.54	1.47
t value	3.61*		−1.13		3.61*		6.65*		5.47*	

* $p < .001$

viations are relatively high in all need categories for both men and women, indicating strong individual difference effects in the responses to need deficiency. This is particularly true in the case of the security need of both men and women.

Table 3 presents the means and standard deviations of the perceived importance of needs for men and women, and the results of a *t* test for the significance of difference between means. The results in Table 3 indicate that men perceive the importance of autonomy and self-actualization needs significantly differently (more important) than the women. The judged importance of need of both men and women is similar in other categories, namely security, social, and esteem needs. Men and women seem to judge self-actualization need as the need of highest importance. Also, both men and women view the esteem need as the least imporant of all needs.

DISCUSSION

The results show that there are some differences between men and women librarians with regard to need fulfillment, need deficiency, and the perceived importance of needs. As far as need fulfillment is concerned, women express significantly lower levels of fulfillment than men in the esteem and autonomy needs. Men and women showed similar levels of fulfillment in lower-order needs, that is, social and security needs. As far as need deficiency is concerned, women indicated larger deficiency needs in all categories except for the social need, which was similar for both men and women. As far as the judged importance of needs, both men and women ranked autonomy and self-actualization needs as having the highest importance of all need categories. The results also show that the judged importance of security, social, and esteem needs are similar for men and women librarians. However, women regarded autonomy and self-actualization as having lower importance in contrast to the men.

A possible explanation of these findings may arise out of considering what each of the three scores reflects in the work situation. The need fulfillment score can be viewed, generally, as a

TABLE 3

PERCEIVED NEED IMPORTANCE FOR EACH NEED CATEGORY FOR MEN AND WOMEN

Group	Security M	Security SD	Social M	Social SD	Need Esteem M	Need Esteem SD	Autonomy M	Autonomy SD	Self-Actualization M	Self-Actualization SD
Men	5.71	1.28	5.54	1.25	5.34	1.23	5.94	.86	6.24	1.33
Women	5.66	1.64	5.32	1.30	5.08	1.186	5.35	1.80	6.12	1.07
t value	−.959		−1.08		−1.33		−2.86*		−3.02*	

* $p < .01$

function of the satisfaction derived from the work situation, while the need deficiency score can be viewed as a function of *both* the personal expectations of need fulfillment and the actual fulfillment from the job. Judged need importance for the most part reflects the value judgment of the individual or group involved.

The need fulfillment scores indicate an actual or imaginary differential treatment in the work situations between men and women. The deficiency score may reflect the differences between the need expectation (should-be) of men relative to women. For example, assume that men and women have the same need fulfillment, and that women have higher need deficiency than men. This situation is demonstrated by the fulfillment and deficiency scores for the security needs of women in this study, where both men and women showed the same level of fulfillment but women showed a higher degree of deficiency (higher insecurity) than men. The need expectancy degree (should-be) concept may provide the key to reconcile the contradictory findings of prior studies on the subject. None of the prior studies attempted to measure the need expectation of women and men and compare them to their level of fulfillment.

Finally, it is evident from the results of the judged need importance that men and women librarians reflect similar value systems in all categories of need except autonomy and self-actualization. The fact that women and men perceived the importance of the other three needs similarly indicated that the value system of men and women in librarianship may not be different with regard to these needs. The reason that women view autonomy and self-actualization lower in importance in contrast to men may be due to the prevailing social roles in which men are expected to be the dominant sex. Clearly, women's perceived need for autonomy is not as high as men under the current social norm. It is likely that such traditional sex roles may not continue in light of the current women's social movement.

The results of this study cannot be generalized to all professionals due to the fact that the study included only librarians. There is a need to further test and replicate the results in a variety of samples before a definite conclusion can be drawn about the comparative differences between the need satisfaction of men and women in general. It should be pointed out, however, that the results of this study are in agreement with prior results showing women as more dissatisfied than men.

References

1. For a review see Robert J. House and Lawrence A. Wigdor, "Herzberg Dual-Factor Theory of Job Satisfaction and Motivation: A Review of the Evidence and A Criticism," *Personnel Psychology* 20:369–89 (Winter 1967).
2. W. W. Ronan, "Individual and Situational Variables Relating to Job Satisfaction," *Journal of Applied Psychology Monographs* 59:1–31 (Feb. 1970).
3. S. Wahba, "Job Satisfaction and Motivation of Librarians" (unpublished paper, Baruch College, 1973).
4. J. Benge, "How to Learn What Workers Think of Job and Boss," *Factory Management Maintenance* 102:101–4 (1944).
5. L. O. Stockford and K. R. Kunze, "Psychology and the Pay Check," *Personnel* 27: 129–43 (1950).
6. F. S. Chase, "Factors for Satisfaction in Teaching," *Phi Delta Kappan* 33:127–32 (1951).
7. L. A. Peck, "A Study of the Adjustment Difficulties of a Group of Women Teachers," *Journal of Educational Psychology* 27: 401–16 (1936).
8. R. J. Cole, "A Survey of Employee Attitudes," *Public Opinion Quarterly* 4:497–506 (1940).
9. C. L. Hulin and P. C. Smith, "Sex Difference in Job Satisfaction," *Journal of Applied Psychology* 48:88–92 (1964).

10. A. H. Maslow, "A Theory of Human Motivation," *Psychological Review* 50:370–96 (July 1943).
11. L. W. Porter, "Job Attitudes in Management: Perceived Deficiencies in Need Fulfillment as a Function of Job Level," *Journal of Applied Psychology* 46:375–84 (1962).
12. L. W. Porter and E. E. Lawler, *Managerial Attitudes and Performance* (Homewood, Ill.: Richard D. Irwin, 1968).
13. R. Ewen, "Weighting Components of Job Satisfaction," *Journal of Applied Psychology* 51:68–73 (1967); E. A. Locke, P. C. Smith, C. L. Hulin, and L. M. Kendall, *Cornell Studies in Job Satisfaction: V. Scale Characteristics of the Job Descriptive Index* (Ithaca: Cornell University, 1963); P. C. Smith, L. M. Kendall, and C. L. Hulin, *The Measurement of Satisfaction in Work and Retirement* (Chicago: Rand McNally, 1969).
14. Porter and Lawler, *Managerial Attitudes*.
15. For example, A. H. Maslow, *Motivation and Personality* (New York: Harper, 1954).

Statement of Ownership and Management

College & Research Libraries is published 17 times a year, bimonthly as a technical journal with 11 monthly **News** issues, combining July-August, by The American Library Association, 50 E. Huron St., Chicago, IL 60611. American Library Association, owner; Richard D. Johnson, editor. Second class postage paid at Fulton, Missouri. Printed in U.S.A. As a nonprofit organization authorized to mail at special rates (Section 132.122, **Postal Service Manual**), the purposes, function, and nonprofit status of this organization, and the exempt status for Federal income tax purposes have not changed during the preceding twelve months.

Extent and Nature of Circulation

("Average" figures denote the number of copies printed each issue during the preceding twelve months; "Actual" figures denote number of copies of single issue published nearest to filing date—the September 1974 issue.) **Total number of copies printed:** Average, 16,200; Actual, 16,750. **Paid circulation:** not applicable (i.e., no sales through dealers, carriers, street vendors, and counter sales). **Mail subscriptions:** Average, 14,798; Actual, 14,527. **Total paid circulation:** Average, 14,798; Actual, 14,527. **Free Distribution:** Average, 1,183; Actual, 1,052. **Total distribution:** Average, 15,981; Actual, 15,529. **Office use, left-over, unaccounted, spoiled after printing:** Average, 219; Actual, 1,221. **Total (sum previous two entries):** Average, 16,200; Actual, 16,750.

Statement of Ownership, Management and Circulation (PS form 3526, July 1971) for 1974 filed with the United States Post Office Postmaster in Chicago, September 28, 1974.

GRANT T. SKELLEY

Characteristics of Collections Added to American Research Libraries, 1940-1970: A Preliminary Investigation

During the years 1940–1970 301 American libraries were reported in College & Research Libraries *and* College & Research Libraries News *to have added 1,454 collections. In this report the collections are analyzed by (1) type of library, (2) type of collection, (3) means acquired, and (4) sources of gifts (to academic libraries).*

Introduction

There is a considerable, if not substantial, amount of writing about "book selection" and "collection building" in libraries of all kinds. Little seems to have been written, however, about the role that has been played among research libraries in general by the practice of acquiring collections of library materials—as opposed to adding individual titles one at a time. It is the purpose of this paper to make an informal, preliminary report on an investigation based on one reasonably usable data base, with the hope that it may suggest and contribute to some more thorough and more conclusive studies.

American libraries have been growing since colonial times partly by means of acquiring, in bulk, existing collections. But documentation and details of most of these transactions, and of the nature of the collections, are for the most part either lacking or widely scattered and difficult of access. For a fairly recent period, however, a starting point, at least, exists. From its first issue, dated December 1939, *College & Research Libraries* and, more lately, *College & Research Libraries News* (hereinafter referred to as *C&RL* and *C&RL News*) have included, with some variations in presentation and arrangement, news of recent acquisitions by libraries throughout the United States and Canada. With certain qualifications brought out later in this report, these published descriptions of what American libraries were adding to their resources in the form of collections provide a sample of what has been going on.

The term "research library" is subject to definitions that vary according to individual predilections and persuasions. (One notices without comment the distinction made in the title of the journal used as the primary source for this investigation.) Consequently, no attempt has been made to discriminate among the libraries whose acquisitions were reported. With a few exceptions to be noted, every added collection that was reported in the pages of *C&RL* and *C&RL News*, 1940–1970 inclusive (1,454 collections in 301 libraries), has been

Grant T. Skelley is assistant professor, School of Librarianship, University of Washington, Seattle.

counted and categorized according to (1) type of library, (2) type of collection, (3) means acquired, and (4) sources of gifts. Definitions are given below.

A word about scope. *C&RL* at first listed people who supplied the journal with information about new acquisitions, and these people were called "reporters." Mention of them was soon discontinued, and some of the editors of *C&RL* during the period covered have informed the author that the large majority of the descriptions that appeared (and appear currently) were derived from news-releases, and that virtually all of such announcements they received appeared, sometimes in edited versions, in subsequent issues of the journal. Other sources accounted for a small number of the collections reported.

Within that scope—the scope of the news sources *C&RL* has and the news it published—exclusions in this study include (1) Canadian libraries, since there were so few reported; (2) one or two instances where the library could not be positively identified from the information given; (3) one or two cases where collections were jointly acquired by two or more libraries not in the same system; (4) the second or third mention of any one collection; (5) those cases where the description was unclear as to whether or not books were acquired as a lot, and (6) those collections that were said to have been formed by an agent of the library going on a buying junket.

No attempt was made to quantify the growth these collections represented in terms of number of volumes or other units. When given, sizes ranged from two volumes (and other larger quantities as specific) to eight tons to three truckloads to a 14,000,000-item archival collection (that of Ford Motor Company, given to the Edison Institute in 1965). The years used in the tables are the years in which collections were reported in *C&RL* or *C&RL News,* and are therefore not necessarily always the years they were acquired.

Definitions

Collection

A collection was any group of materials containing two or more items, with the exception that a run of a single serial title was not considered a collection. However, runs of two or more serials were considered to be a collection.

Type of Library

Academic/Private—Any academic institution of higher education not supported by state or municipal funds. A unit of a multiunit system was identified and tallied only under the parent institution.

Academic/Public—Any academic institution of higher education supported by public funds. A unit of a multiunit system was identified and tallied only under the parent institution.

Other—A library that does not qualify as either type of academic library, or as a "public" or "state" library, i.e., the kind of library that would commonly be referred to as "special" or would be in a category almost by itself, like the Newberry, Folger, Huntington, etc.

Public—With one exception, a tax-supported library serving a city or county. Branches were tallied by system. The exception is the Library of Congress, included here on the basis of its tax support. (How its inclusion affects the statistics for public libraries is brought out below.)

State—A state library and its branches. Branches, such as the Sutro Branch of the California State Library, were tallied as with "public."

Type of Collection

Author—Used to designate a collec-

tion of books by one author, or of the manuscripts of his works, or both. Correspondence and "papers" were categorized as a subject collection (see below).

Book—Used to designate any collection of printed books, serials, pamphlets, etc.

Genre—A collection of certain types of material, book or nonbook, where author or subject was not the unifying principle: Victorian fiction, incunabula, clay tablets, recorded music of the 1920s, books from one private press, etc.

Heterogeneous—Applied to any collection that was not distinctly an author, genre, or subject collection, such as the occasional "gentleman's" library reported.

Manuscript—Applied to any collection consisting of manuscript books, holograph or partly holograph letters and documents (also typewritten), diaries, business records, log books, etc.

Mixed—Used to describe any collection that contained any combination of books, manuscripts, and nonbook material as defined for purposes of this report.

Nonbook—Reserved for material not fitting the description of "book" and "manuscript," including the one or two instances of clay tablets, but usually being such as phonorecords, etchings, films, maps, theater programs, and "realia."

Subject—A collection of books, manuscripts, or nonbook material (or mixed) that pertains to a given topic or area of study. The way some of the collections were described, the choice of designating a collection as "subject" was more or less intuitive, but usually there was little indecision.

Means Acquired

Gift—Many acquisitions were called "gift" in the description. When the term was not used, the operative word was almost always either "received" or "acquired." Those collections that were said to have been "received" were classed as gifts; those said to have been "acquired" were classed as "unspecified" (see below). Collections said to have been purchased with a money gift from some donor were classed as gifts.

Loan—There were so few of these as to be inconsequential, and they might legitimately be considered *de facto* gifts. Technically, however, there is a matter of legal title involved.

Purchase—Includes only those specifically so designated, except for collections said to have been purchased with a gift of money, which were included as "gifts."

Unspecified—Includes those collections which, according to the descriptions, were not clearly gifts, loans, or purchases.

Sources of Gifts

(This information applies only to collections added by academic libraries, in an attempt to gauge the significance of alumni and faculty as donors among the reported gift collections.)

Alumni—Besides the collections which were specifically identified as the gift of a living alumnus, this category includes those collections said to have been from "the estate of" or "the family of" (etc.) a deceased alumnus.

Faculty—Inclusion in this category of donor was determined in the same manner as for alumni, with "faculty" being broadened to include administrators and librarians.

Unspecified—Includes all gift collections for which the relationship of the donor to the school was not given.

Remarks

The data of the sample analyzed here do not lead convincingly to any generalized conclusions, but they do call for some remarks and raise some questions.

TABLE 1

COLLECTIONS ADDED, 1940–1970 (BY YEAR)

Year	Type of Library						Means Acquired					Type of Collection				
	Academic/ Public	Academic/ Private	Public	State	Other	Total	Gift	Purchase	Loan	Unspecified	Total	Book	Manuscript	Nonbook	Mixed	Total
1940	13	15	2	1	0	31	26	1	1	3	31	18	4	3	6	31
1941	17	10	1	0	2	30	17	0	0	13	30	12	3	6	9	30
1942	6	7	2	0	2	17	7	6	1	3	17	7	6	1	3	17
1943	13	20	3	9	5	50	35	2	1	12	50	15	23	3	9	50
1944	17	19	1	0	0	37	25	1	0	11	37	16	11	2	8	37
1945	17	17	0	0	1	35	30	2	0	3	35	15	13	1	6	35
1946	20	13	0	2	0	35	34	0	0	1	35	26	4	2	3	35
1947	13	20	0	0	0	33	23	1	0	9	33	13	7	4	9	33
1948	4	16	3	0	0	23	18	2	0	3	23	13	3	2	5	23
1949	4	9	2	0	0	15	11	0	0	4	15	8	1	4	2	15
1950	9	8	2	0	0	19	12	1	0	6	19	9	6	2	2	19
1951	6	11	4	0	0	21	16	4	0	1	21	15	3	1	2	21
1952	7	18	4	0	0	29	22	1	0	6	29	14	9	1	5	29
1953	7	10	2	0	0	19	13	3	0	3	19	13	4	0	2	19
1954	10	13	2	0	0	25	13	4	0	8	25	7	10	0	8	29
1955	8	17	3	0	1	29	16	7	0	6	29	13	11	0	5	29
1956	16	14	0	0	0	30	21	1	0	8	30	13	2	1	14	30
1957	18	22	2	0	0	42	32	3	0	7	42	11	18	2	11	42
1958	25	33	7	0	1	66	44	6	0	16	66	31	16	2	17	66
1959	11	30	3	0	3	47	38	6	0	3	47	26	14	1	6	47
1960	14	12	3	0	5	34	26	4	1	3	34	15	15	3	1	34
1961	35	21	1	0	6	63	37	4	0	22	63	28	21	3	11	63
1962	38	39	2	1	9	89	54	16	0	19	89	43	23	4	19	89
1963	43	29	5	1	4	82	56	6	0	20	82	42	25	3	12	82
1964	22	27	4	0	2	55	38	3	0	14	55	33	14	0	8	55
1965	18	16	0	0	2	36	21	3	1	11	36	21	4	5	6	36
1966	28	21	3	0	1	53	30	7	0	16	53	32	10	3	8	53
1967	55	55	3	0	3	116	45	8	0	63	116	28	67	2	19	116
1968	54	37	7	0	1	99	58	9	0	32	99	30	50	0	19	99
1969	29	37	16	0	3	85	46	7	0	32	85	26	46	4	9	85
1970	28	62	16	0	3	109	62	10	0	37	109	32	60	2	15	109
Total	605	678	103	14	54	1,454	926	128	5	395	1,454	625	503	67	259	1,454

Type of Library

It will be seen from Tables 1 and 2 that a not unexpected pattern emerges in that academic libraries reported receiving by far the most collections—a total of 1,283, or 88.5 percent of all reported. The evenness of distribution between public and private academic libraries (41.5 percent and 46.5 percent) is misleading, however, in light of the fact that twenty-five public academic libraries acquired 398 collections, while sixteen private academic libraries acquired 418 collections. In other words, 15 percent of the academic libraries accounted for 64 percent of the collections acquired by both types, and 21.5 percent of the public academic libraries accounted for 66 percent of the collections acquired by that type, and 10.5 percent of the private academic libraries accounted for 62 percent of the collections acquired by that type. (See Table 4 for ranked lists.) In the total sample, 148 (49 percent) of the libraries reported only one collection. Forty-five (15 percent) reported ten or more.

The figure for public libraries is likewise misleading, for, as pointed out above, this category includes the Library of Congress, which accounted for seventy-seven, or 75 percent of the total number reported by public libraries.

A similar situation exists with state libraries, where one such library (Virginia) reported 50 percent of the thirty-one-year total of fourteen collections in one year (1943), and overall reported ten, or 71.5 percent of the total for this category.

Libraries in the "other" category show a more normal distribution, with a total of twenty-two libraries reporting fifty-four collections, although the figures are somewhat skewed by the fact that one library (the Truman Library) reported seventeen, or 31.5 percent of the total.

Type of Collection

There was of course an extraordinary variety of materials, subjects, authors,

TABLE 2

COLLECTIONS ADDED, 1940–1970: SUMMARY

Characteristics	Type of Library					Total	Percent
	Academic/ Public	Academic/ Private	Public	State	Other		
Book	312	287	14	2	10	625	43.0
Manuscript	169	219	72	10	33	503	34.0
Nonbook	25	32	5	0	5	67	5.0
Mixed	99	140	12	2	6	259	18.0
Total	605	678	103	14	54	1,454	100.0
Author	36	59	15	4	2	116	8.0
Subject	405	415	75	8	39	942	65.0
Genre	63	77	8	1	6	155	11.0
Heterogeneous	101	127	5	1	7	241	16.0
Total	605	678	103	14	54	1,454	100.0
Gift	334	489	69	14	25	931	64.5
Purchase	84	32	3	0	3	122	8.5
Loan	2	2	0	0	0	4	—
Unspecified	185	155	31	0	26	397	27.0
Total	605	678	103	14	54	1,454	100.0
Alumni	2	34				36	4.5
Faculty	40	40				80	9.5
Unspecified	292	415				707	86.0
Total	334	489				823	100.0

and genres represented among the 1,454 collections analyzed here, and to single out several for mention would not even begin to give any indication—much less a representative cross-section—of the richness and diversity that enhanced the resources of American libraries during the period covered. One should think that nearly everyone connected with research libraries knows of great collections, for example, the Rosenwald at the Library of Congress, but what impresses one in the course of reading this thirty-one-year record from beginning to end is the amount of less glamorous but probably in its way equally useful research material that settled quietly and without fanfare into library sanctums of somewhat lesser majesty. Though these are only samples, they give powerful evidence of the fact that American research libraries do have the lodes and troves of resources their promoters so often routinely (though now and then inflatedly) claim they do.

That manuscript collections come as close as they do to equalling the number of book collections (34 percent and 43 percent respectively) might come as a surprise, since one would suppose that more people collect books than collect (or save) manuscript material. When one considers that the category "mixed" (18 percent of total) most often was a mixture of books and manuscripts, frequently appearing to be predominantly the latter and thus laying fair claim to being called a manuscript collection for all practical purposes, the distribution of the two kinds of collection becomes yet more even.

Means Acquired

As might be inferred from the definitions of "gift," "purchase," "loan," and "unspecified," above, this area is the one in most need of more exact information. However, if the sample is indicative, there was an impressive number of gifts during the period: 931 (64 percent) overall, 824 (56 percent) for all academic, 334 (55 percent) for academic/public, 489 (72 percent) for academic/private, 69 (67 percent) for public, 14 (100 percent) for state, and 25 (46 percent) for other types of libraries. It is probably not unreasonable to assume that a large proportion of the "unspecifieds" are also gifts. Attributing reasons for the higher incidence of gifts in private academic libraries than in public academic libraries is beyond the scope of this study, but the finding is nonetheless somehow not surprising.

Source of Gifts (Academic)

The figures would seem to indicate that alumni of private schools are far more of a mind to give to their alma maters than those of public institutions (thirty-four of the former, two of the latter), and that faculty members of public institutions are relatively more generous than those of private, although in absolute numbers both received the same number of collections (forty) from faculty members.

Some Questions

This inquiry into some characteristics of the amassing of collections raises certain questions, some of which are:

1. To what extent has the acquisition of specific collections influenced the subsequent collection building policy of the library concerned?
2. To what extent has the acquisition of specific collections influenced the research and curricular development at academic institutions?
3. To what extent do research programs and instructional programs attract gift collections to academic libraries?
4. To what extent are the special collections made known and made available? (An approach to an an-

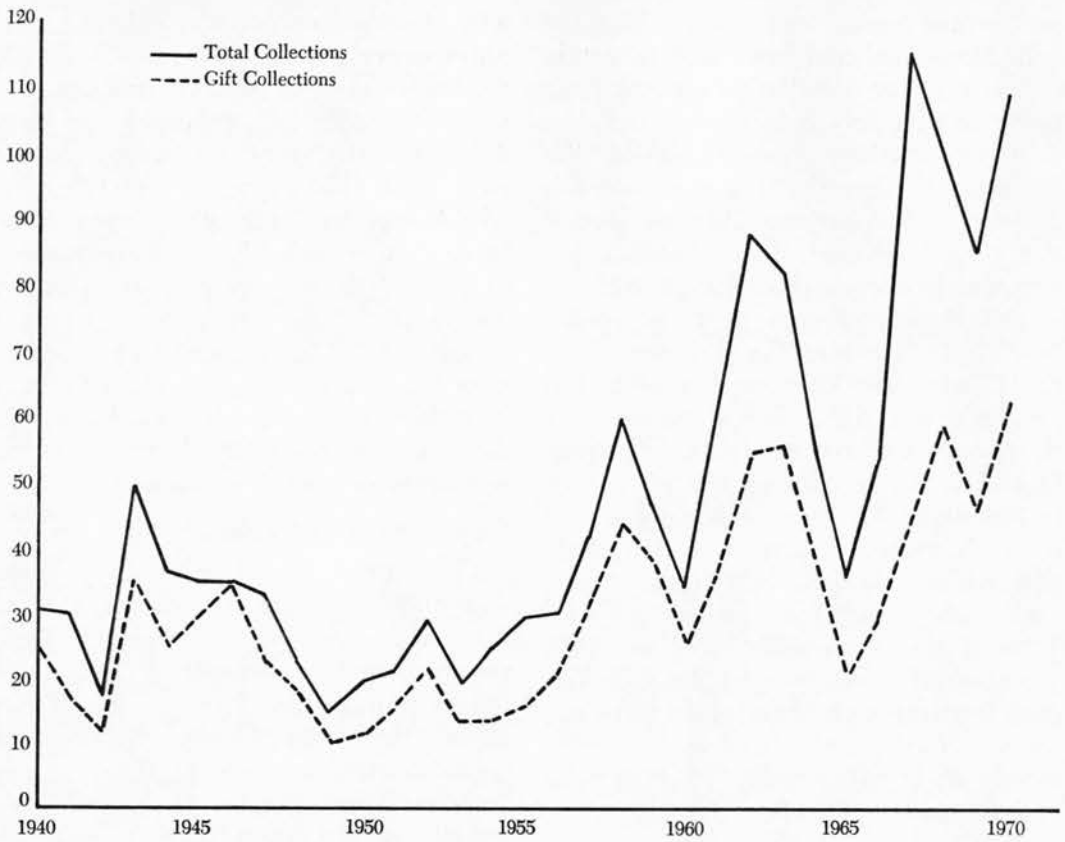


Fig. 1

Total Collections and Gift Collections by Year, 1940–1970

swer to this question is underway, based on the data gathered for this paper.)

5. What is the cost effectiveness of gift collections? Of purchased collections?
6. How much unneeded duplication and relative dross results from the acquisition of some collections? What does such duplication and dross cost the library in terms of staff time, increased cataloging backlogs, and reduced service?
7. What effect have donors' choices of donee library had on the ultimate utility of the collection to the scholarly community and other potential users?
8. Do the fluctuations displayed in Figure 1 represent a true picture of the collections-adding activity during the period, or merely the fluctuations in public relations activity? Why the sharp decline from 1943 to 1949? Why the precipitous decline 1958–1960, 1962–1965? Or the large increases between 1960 and 1962, 1965 and 1967? How much will the Tax Reform Act of 1969, which plugged the loophole regarding taxes on appreciated value of personal property donations, affect donations from 1970 on?
9. What is the relationship between acquisition (or "selection") policy and the acceptance of gift collections? In other words, how of-

TABLE 3

NUMBER OF COLLECTIONS REPORTED BY NUMBER OF LIBRARIES, 1940–1970

Number of Collections	Number of Libraries					
	Academic/ Public	Academic/ Private	Public	State	Other	Total
77			1			1
51		3				3
45		1				1
38	1					1
37		1				1
34	1					1
32	1	1				2
23	1					1
22		1				1
21		1				1
20	1					1
19		1				1
17	1	1			1	3
16	2	1				3
15	4					4
14	1					1
13	1	2				3
12	1					1
11	3					3
10	7	3	1	1		12
9	1	1	1			3
8	1	2				3
7	3	1				4
6	3	3			1	7
5	1	4				5
4	7	7			2	16
3	14	11	1			26
2	15	23	1		5	44
1	46	83	2	4	13	148
Total	116	151	7	5	22	301

ten are gifts and gift collections accepted solely on the basis that the library can then claim to have some scarce or prestige item(s), regardless of how they relate to the nature of their collection, or of the fact that the most logical and useful place might be in a different library?

10. Does the relationship between size and reputation of a library and the number of collections it acquires bear out the time-honored adage that "gifts beget gifts"?

TABLE 4

ACADEMIC LIBRARIES REPORTING TEN OR MORE COLLECTIONS, 1940–1970

Number of Collections (N = 816)	Names of Parent Institutions	
	Private (N = 16)	Public (N = 25)
51	Columbia, Stanford, Washington U.	
45	Yale	
38		U. California (Berkeley)
37	Northwestern	
34		U. California (Los Angeles)

TABLE 4—Continued

Number of Collections (N = 816)	Names of Parent Institutions	
	Private (N = 16)	Public (N = 25)
32	Syracuse	Southern Illinois U.
23		U. Minnesota
22	Cornell	
21	Duke	
20		U. Virginia
19	Princeton	
17	U. Rochester	U. Missouri
16	Harvard	U. Houston, U. Kansas
15		Ohio St. U., Pennsylvania St. U., U. Illinois, U. Kentucky
14		Kent St. U.
13	Dartmouth, New York U.	Indiana U.
12		U. Delaware
11		U. California (Santa Barbara), U. Vermont, U. Wisconsin
10	Joint Universities, U. Southern California, William & Mary	Michigan St. U., U. Arizona, U. Pennsylvania, U. Pittsburgh, U. Texas (Austin), U. Washington, U. Wyoming

Receiving Libraries

Table 3 shows how many libraries in each category reported a given number of collections. Since it has already been pointed out that academic libraries accounted for almost 90 percent of the collections reported during the period, that the Library of Congress dominated the public library field, that one state library was the major performer in that category, and that the number of collections reported by libraries in the "other" category was relatively evenly distributed, only those academic libraries that reported ten or more collections during the period are identified in Table 4.

EUGENE P. SHEEHY

Selected Reference Books of 1973-74

Introduction

This article continues the semiannual series originally edited by Constance M. Winchell. Although it appears under a byline, the list is actually a project of the Reference Department of the Columbia University Libraries, and notes are signed with the initials of the individual staff members.[1]

Since the purpose of the list is to present a selection of recent scholarly and foreign works of interest to reference workers in university libraries, it does not pretend to be either well balanced or comprehensive. A brief roundup of new editions of standard works, continuations, and supplements is presented at the end of the column. Code numbers (such as AA71, 2BD89) have been used to refer to titles in the *Guide to Reference Books* and its supplements.[2]

Library Resources

Downs, Robert Bingham. *British Library Resources; a Bibliographic Guide.* Chicago, Amer. Lib. Assoc.; London, Mansell, 1973. 332p. $25.00.

Intended as a "bibliographical guide to the resources for advanced study and research in the libraries of the United Kingdom and Eire," this guide lists published library catalogs, checklists, calendars of manuscripts and archives, articles descriptive of library collections, guides to individual libraries and their holdings, library directories, union lists, and "any other records descriptive, analytical, or critical, that may guide the scholar, research worker or advanced student in finding significant materials" *(Introd.).* It covers all types of libraries, but does omit, of course, as the author points out, those (notably the new university libraries) whose holdings lack published descriptions. Arrangement, as in *American Library Resources (Guide* AB 79), follows Dewey, with a few exceptions. The 5,000 entries are listed alphabetically by main entry within the appropriate sections, with full bibliographical information. There is an index of authors, editors, compilers, institutions, subjects, and a few titles. In addition to its stated audience, the reference librarian should find the volume useful—most likely for the manuscript catalogs, archival descriptions, and local history entries.—*R.K.*

Microforms

International Microforms in Print, 1974/1975– ; a Guide to Microforms of Non-United States Micropublishers. Ed. by Allen B. Veaner and Alan M. Meckler. Weston, Conn., Microform Review, 1974– . $10.00. 74-4810.

Monographs, serials, newspapers, and archival materials available from 41 non-United States micropublishers are listed in this useful guide. Entries are usually as submitted by the publisher, with some subject cross-references. Titles are used, with cross-references to the main entry, in the case of "obscure material" (archives, theses, etc.); *Archives of British Men of Science,* however, is listed only under its editors. Major international microform publishers (particularly British and Canadian) are well represented, but others listed in the editors' *Microform Market Place* are not represented here (e.g., the important French newspaper publisher, ACRPP). Perhaps with the next edition the work will be more in-

1. Laura Binkowski, Patricia Clark, Diane Goon, Rita Keckeissen, Anita Lowry, Eileen McIlvaine, Doris Ann Sweet; School of Library Service Library, Evelyn L. Kraus.
2. Constance M. Winchell, *Guide to Reference Books* (8th ed.; Chicago: ALA, 1967); *Supplement I* (Chicago: ALA, 1968); *Supplement II* (Chicago: ALA, 1970); *Supplement III* (Chicago: ALA, 1972).

clusive, for this is certainly a worthwhile effort.—*D.G.*

Microform Market Place, 1974/1975– ; an International Directory of Micropublishers. Ed. by Allen B. Veaner and Alan M. Meckler. Weston, Conn., Microform Review, 1974– . $8.00. 74-4811.

This is the first issue of "an international buyer's guide for the microform purchaser" *(Introd.)* which is organized in eight sections: a directory of micropublishers, including reprographic services of university and national libraries; an index of micropublishers listed under broad subject categories of their micropublications; a list of institutional mergers and acquisitions; a very brief list of microform jobbers; addresses and personnel of microform organizations which concentrate on the use of microforms in libraries; an annotated bibliography of titles useful to a librarian dealing with microforms; and a "names and numbers" section listing personal and corporate names (usually abbreviated), with addresses and telephone numbers. The directory does not include equipment and supply manufacturers, these being covered in various publications of the National Microfilm Association.—*D.G.*

Associations

Directory of Associations in Canada. Répertoire des associations du Canada. Prep. under the direction of Brian Land. [Toronto, Univ. of Toronto Pr., 1974]. 393p. $35.00.

Introduction and explanatory matter in French and English.

Brief directory information (name, address, principal officer) for about 7,000 Canadian associations is provided in this new directory. "Association" is defined as "a voluntary non-governmental, non-profit organization composed of personal or institutional members, . . . formed for some particular purpose or to advance a common cause" *(Introd.)*, and the directory includes a wide range of societies, institutes, clubs, and unions. The alphabetical list of associations is preceded by a very detailed "Subject index to associations" which lists pertinent associations under the English subject headings; a "Guide to the subject index" offers cross-references from both English and French forms of related terms —a bit cumbersome, but possibly as good a solution to the bilingual indexing problem as any other.—*E.S.*

Dictionaries

Röhrich, Lutz. *Lexikon der Sprichwörtlichen Redensarten.* Freiburg im Breisgau, Herder, 1973. 2v. il. DM 190. 73-364707.

This attractive dictionary lists and defines German proverbial phrases or picturesque turns of speech which have become accepted as standard ways of achieving emphasis; they are differentiated from true proverbs in that they may be altered grammatically to fit into any sentence. The author, a professor of German philology and folklore, has written clear, concise definitions for these phrases and provided many cross-references to related entries. Also included are bibliographic citations to further readings, and there are illustrations from works of art. Volume 2, in addition to containing a detailed index, has a thirty-seven-page bibliography of textual and pictorial sources used in the compilation of the dictionary. Although scholarly in its design and apparatus, the dictionary has a sufficiently popular tone to make it useful to the layman as well as the scholar.—*E.L.K.*

Government Publications

France. Commission de Coordination de la Documentation Administrative. *Répertoire des publications périodiques et de série de l'administration française.* [Paris, La Documentation Française, 1973] 368p. 40F.

In an effort to make known what official publications exist, to point up gaps in the dissemination of public information, and to avoid duplication of effort, this inventory of serial publications (including annuals) of the various French administrative departments was prepared by a specially appointed commission. Some 850 periodicals and series are listed under the sponsoring ministry or issuing body. Full information necessary for acquiring a publication is provided, together with a descriptive statement for each item (except for some few for

which a single note is used to describe several closely related series). Information was current in 1972. Both title and subject indexes are provided.—*E.S.*

Dissertations

Allen, George R. *The Graduate Students' Guide to Theses and Dissertations; a Practical Manual for Writing and Research.* San Francisco, Jossey-Bass, 1973. 108p. $7.75. 73-3774.

Only in the subtitle of this book, "a practical manual for writing and research," is the true nature of Mr. Allen's work revealed. He contends that through proper planning and systematic organization the graduate student ready to begin his dissertation can minimize fruitless effort and waste of time. This guide presents an overview of the process in an effort to visualize the research activity from beginning to end. The book is organized in chapters corresponding to seven major steps of graduate research: (1) selecting a topic; (2) choosing a research committee; (3) preparing a proposal; (4) collecting data; (5) analyzing data; (6) writing the final report; and (7) defending the thesis. In each section the question-answer format is used to highlight the various problems and issues. There is a short, selective bibliography of publications dealing with academic research procedures and general source material covering a wide range of disciplines. A brief subject index concludes the guide.

Although every dissertation is unique, the author tries to preserve a tone of general applicability in his presentation; it is an early mastery of the basic routines of collecting and analyzing any kind of data that can save a student time and energy which should be directed to sharpening the focus of his research. One may agree, as Mr. Allen maintains, that the scientific methods outlined here do not preclude creative thinking and writing. Some may object, however, to his statement that "the student who uses the material and suggestions in this book from the beginning of his doctoral program should be able to complete his dissertation within one academic year after his comprehensives are completed." Despite such a claim, the guide should be useful to graduate students who may tend to isolate the steps of their research methodology without ever getting a good overview of the complete process.—*L.B.*

Biography

Bidwell, Robin Leonard, comp. and ed. *Bidwell's Guide to Government Ministers.* [London], Cass, [1973–74]. v.1–3. (In progress)

Contents: v.1, The Major Powers and Western Europe, 1900–1971. 297p. £9; v.2, The Arab World, 1900–1972. 124p. £8; v.3; The British Empire and Successor States, 1900–1972. 156p. £9.

Intended for "the researcher in international history" *(Introd.),* this useful chronology, when complete, will cover countries throughout the world, listing the ministers of posts that have dealings with foreign nations. Volume 4 is to cover Africa, 1900–73; volume 5, Asia and the Far East for the same period; and volume 6, Latin America.

Listed in the chronological tables for each country are heads of state; heads of government; ministers of foreign affairs, war, interior, finance, navy, trade, colonies; and United Nations representatives. For each minister are given full name and date of assuming office. Since information for groups of countries is given in parallel columns, a glance across the page gives comparable information for many nations; reading the columns vertically gives the succession of incumbents in a post in a particular country. Material was compiled from contemporary newspapers, international yearbooks, official gazettes and diplomatic sources. The work should prove useful for the college and university library in support of research in international affairs.—*R.K.*

Lazić, Branko M. *Biographical Dictionary of the Comintern . . .* in collaboration with Milorad M. Drachkovitch. Stanford, Calif., Hoover Inst. Pr., 1973. 458p. $15.00. (Hoover Inst. publ. 121) 72-187265.

This supplement to the author's *Lenin and the Comintern* (v.1, Stanford, 1972) has the stated purpose of "imparting to the

reader some small notion of the vast accomplishments of the Comintern and a better understanding of the events in which it was involved" *(Introd.)*. This is achieved through 718 biographical sketches ranging from several lines to several pages. With no geographical or time limitations, inclusion is based solely on the individual's role in the Communist International. Thus, while those who were unknown because of their undercover activities are included, persons exclusively concerned with such movements as the Zimmerwald Left or the Spartacus League are omitted. Each sketch gives general biographical and political data; emphasis, of course, is placed on Comintern-related activities. As extra aids to the reader, the authors have included a guide to abbreviations, a list of biographees, and a list of pseudonyms. Because much of the information included in this dictionary was collected from people who wish to remain anonymous, sources are not given. Despite the fact that one is not referred to more detailed sources, the work should prove invaluable to those looking for information about persons who played little-publicized roles in the Communist International.—*P.C.*

Religion

Mitros, Joseph F. *Religions; a Select, Classified Bibliography*. N.Y., Learned Publs., 1973. 435p. (Philosophical questions, 8) $17.50. 77-183042.

The purpose of this work, according to its author (an associate professor of theology at Fordham University), is "to provide a student of religion with a handy guide in his research while he is preparing a paper, an examination, a lecture, a course, writing a book or conducting a seminar" *(Introd.)*. Part I discusses the history and methodology of the seminar in religious research; Part II lists general reference books; Part III deals with non-Christian religions; Parts IV and V treat Christianity, with particular reference to Patristic studies; Part VI focuses on the Scriptures; Part VII lists relevant journals. Citations include primary and secondary materials in books, periodical and encyclopedia articles, symposia, and *Festschriften*, with a cut-off date of 1972. Title selection was made on the basis of "value . . . and availability" and "the best . . . have been briefly [and critically] annotated." An author index concludes the book.

On the whole, this is an excellent bibliography—not for the general "student of religion," but for the advanced student of Western religious history. Its focus is reflected in the nearly 200 pages devoted to Christianity, Patristic studies, and Jewish and Christian Scriptures, as opposed to about sixty pages on all non-Christian religions. Titles in the latter section, while basically good, do not approach the sophistication of titles in the main body of the work. The basic high quality of the work suggests that certain improvements could make a new edition truly indispensable: e.g., Part I, which provides little information not readily available elsewhere, might be omitted; similarly, Part II should either be omitted or subjected to more careful editorial scrutiny; the non-Christian religions section, particularly the chapter on primitive religions, should be strengthened; title and detailed subject entries should be provided in the index (without a subject index, more cross-references should have been provided within the text).—*D.G.*

Language

Mackey, William Francis. *Bibliographie internationale sur le bilinguisme. International Bibliography on Bilingualism*. Quebec, Presses de l'Université de Laval, 1972. 337p. 209p., 204p. $32.40. 73-358929.

Published for the International Center for Research on Bilingualism.

Introductory and explanatory matter in French and English.

More than 11,000 items—books, periodical articles, theses—are listed in this international bibliography "devoted to bilingualism, biculturalism, and related phenomena." Citations are presented in an alphabetical author listing with detailed subject indexes in French and in English. Titles are given in the original language (or transliteration) with French or English translation of all titles not originally in one of those languages. Many citations are derived from

secondary sources rather than from examination of the originals. The volume is essentially a computer printout (the data base is at Laval University) with indexing designed for automatic retrieval. Although the long lists of references under numerous subject headings seem formidable at first glance, the descriptors thereunder effectively limit the search for very specific topics.—*E.S.*

Cinema

Hochman, Stanley, comp. and ed. *American Film Directors.* [N.Y., Ungar, 1974] 589p. $18.25. 73-92923.

American Film Directors focuses on "65 American directors whose reputations had been established by the mid-1960's" and who were chosen as representative of an "overall picture" of American filmmaking. Therefore, European directors who made films in the United States which were "influential" in the American movie scene are included, while directors (both American and foreign) not established in the mainstream of American movie production are excluded. A major portion of the work consists of excerpts from reviews selected from a variety of sources, including newspapers, general magazines, film journals, fan magazines, and books. Ranging in length from a short paragraph to a page, these excerpts can provide a basic overview of critical reaction to a director's work (emphasizing his best known films). For the reader with a relatively unsophisticated interest in film, these out-of-context excerpts may constitute a satisfactory commentary on a director or film. For the serious film student or scholar, however, the book provides little more than an initial insight into the vicissitudes of a director's reputation and public reception of his work, together with a very limited bibliography of materials for further research. The filmographies attempt to be complete unless otherwise noted, and indicate such useful information as alternate titles, co-directors, failure to complete a film, service films later exhibited publicly, and films never released.—*A.L.*

Social Science

Abler, Thomas; Weaver, Sally M. [and others]. *A Canadian Indian Bibliography, 1960–1970.* [Toronto], Univ. of Toronto Pr., [1974]. 732p. $35.00.

This multidisciplinary annotated bibliography, prepared by lawyers and anthropologists, includes social, economic, legal, political, anthropological, and historical materials of scholarly interest concerning Indians and the Metis of Canada. While the books, articles, documents, theses, and unpublished reports of the bibliography date from the 1960s, the "case law digest" included covers the much longer period of 1867–1972.

The almost 2,800 items of the bibliography are split into two sections. The first is arranged by topic (such as demography, Indian administration and government policy, history, religion, social organization, etc.) after a long section of general and comparative studies and a valuable list of pertinent bibliographies. The other section is ordered by tribal name within large geographic groupings. In both parts, entries with full bibliographical information appear in alphabetic order according to author. Separating the two parts is the case law digest, some 250 summaries with decisions, arranged according to the province, court, and date. Entries are numbered serially throughout; there are separate subject indexes to the bibliography and to the case law digest.—*R.K.*

Sessions, Vivian S., ed. *Directory of Data Bases in the Social and Behavioral Sciences.* [N.Y.], Science Associates/International, [1974]. 300p. $35.00. 72-86759.

Responses to direct-mail questionnaires provided the information for listings in this international directory of data bases in the social and behavioral sciences. Although the preponderance of entries is for the United States, institutions in about forty other countries are listed. Except for holdings of 1970 census data, comprehensive coverage of United States federal data bases was not attempted. Arrangement is alphabetical by name of the "host institution," then by name of the data center. Entries include names of senior staff, major subject field, file title (with geographic and time limitations), data sources, storage media, hard-

ware and software, output media, access, publications, etc. Not all data bases included were in machine-readable form at the time of reporting. Indexes by (1) major categories and keywords, (2) personnel, and (3) geographic location of the base are provided.—*E.S.*

Statistics

Great Britain. Department of Employment and Productivity. *British Labour Statistics: Historical Abstract, 1886–1968.* London, HMSO, 1971. 436p. £7. 75-860907.

Statistical tables published in various publications of the Department of Employment and Productivity since 1888 have been cumulated in this volume. The foreword gives an extensive definition of what is included in "labour statistics": wage rates, earnings, hours of work, retail prices, employment, unemployment, vacancies, family expenditures, industrial disputes, membership of trade unions, industrial accidents, labor costs, output per head, etc. Arrangement of the tables is topical, with a subject index. Eighteen eighty-six is not an absolute beginning date because many of the published tables included earlier information, and some of the tables have been reworked so that new statistics are given. Certain tables were not considered appropriate for inclusion in this volume (e.g., registration for national service, disabled persons, government-sponsored training, foreign workers), but reference to sources for omitted statistics can be located through *Guides to Official Sources,* no.1: Labour statistics (rev. ed. 1958; *Guide* CG104).

It is good to have this information brought together in one readily accessible source. To supplement the cumulation, the department now issues the *British Labour Statistics Year Book* (beginning with 1969), which presents all labor statistics relating to a calendar year.—*E.M.*

Maps & Atlases

International Maps and Atlases in Print. London & N.Y., Bowker, [1974]. 864p. il. $39.50. 73-1336.

An outgrowth of the 1969 *Stanford Reference Catalogue* (which listed the stock of Edward Stanford Ltd. and other items readily procurable through that London firm), this new work "has been designed as a practical user's guide to currently available world mapping" *(Pref.).* It is an impressive listing of maps and atlases published throughout the world, giving descriptions (including size, scale, publisher, price) of atlas volumes, collections or series, and single maps. Arrangement is by world region and country notation of the Universal Decimal Classification, with a country index. Although the immediate use is as an "in print" record, the volume promises to have continuing value as a detailed record of map publication at this particular period.—*E.S.*

History

Freidel, Frank, ed. *Harvard Guide to American History.* Rev. ed. . . . with the assistance of Richard K. Showman. Cambridge, Mass., Belknap Pr. of Harvard Univ. Pr., 1974. 2v. (1290p.) $45.00. 72-81272.

Publication of a new edition of the *Harvard Guide* after so long an interval is something of an event. While there is much that is familiar about the new work, there is a very great deal that is different in addition to the two-volume format: bibliographic citations are no longer run on in paragraph form; "summary" paragraphs at the beginning of the bibliographic sections have been eliminated; and there are separate indexes of names and of subjects. Endpaper pointers on "How to use the *Guide*" are convenient and generally helpful, though the first of these might have been more explicit: "Entries in volume I are topical, in volume II, they are chronological. Thus a book covering the entire history of the American economy appears in volume I; another, covering only the colonial period, appears in volume II." While the arrangement of volume II is indeed chronological, it is important to note that there is a detailed topical breakdown within each chronological period. Full tables of contents and extensive indexes make for ease of use. Introductory chapters on research methods and materials are again furnished. Cut-off

date for new books and articles was June 30, 1970, with occasional exceptions; about a third of the entries are new to this edition.—*E.S.*

Halstead, John P. and Porcari, Serafino. *Modern European Imperialism: a Bibliography of Books and Articles, 1875–1972.* Boston, G. K. Hall, 1974. 2v. $76.00. 73-19511.

Contents: v.1, General and British Empire; v.2, French and other empires.

Some 33,000 of the more important books, articles, documents, and essays published between 1875 and 1972 concerning the history of European imperialism have been selected for this bibliography. Although the compilers concentrated on secondary sources, selected documents, memoirs, and collections of correspondence are cited to indicate the kinds of materials available. All facets of the colonial experience in a country are included: e.g., "Culture contact and race relations," "Economic and financial," "Fiction and literary comment," and "Missions and religion." Writings on former colonies after independence or dominion status was achieved are excluded, unless the study also relates to the colonial period.

Arrangement is topical under name of the colony, with books and articles cited in separate groupings. Although the arrangement sounds complex and there is no index, the table of contents is very detailed and the volumes are relatively easy to use. One note of caution—with few exceptions, works are cited only once, and an item treating two or more aspects of imperialism will be found under the more general heading. The beginning student or teacher, as well as the experienced researcher in history, political science, or anthropology, should be grateful to Professors Halstead and Porcari for bringing together citations to so much useful material.—*E.M.*

Petrovich, Michael Boro. *Yugoslavia; a Bibliographic Guide.* Wash., Library of Congress, 1974. 270p. $2.60. 72-11512.

The Slavic and Central European Division of the Library of Congress has issued this as the fourth volume of its bibliographic series on central Europe; previous volumes covered Romania, Bulgaria, and Czechoslovakia. Like the others, this guide is in two sections: Part I is a bibliographic survey or essay; Part II is an alphabetical listing of the 2,500 titles cited, with Library of Congress call numbers (or National Union Catalog symbols for titles located only at libraries other than the Library of Congress). The work is principally a selection of book titles written before 1968 (the text was completed in 1970, but production difficulties delayed its appearance). The author, a professor of history at the University of Wisconsin, indicates that history is an area in which the guide "aspires to coverage in some depth"—i.e., 66 pages of the 155-page bibliographic essay. He has tried to emphasize basic, standard works, but admits that the user ignorant of Yugoslav languages may be somewhat dismayed by the great majority of Yugoslav titles; English and major European language materials are included, but are relatively few.

Users may wish to compare this guide with Paul L. Horecky's *Southeastern Europe* (*Suppl.* 3DC4). Horecky's chapter on Yugoslavia is about as long as Petrovich's guide and includes much of the same material; its cut-off date is also 1968. The Horecky format is more attractive and his author-title-subject index easier to use than the classified arrangement of the Library of Congress publication. However, the latter is certainly a great bargain and will be well worth the price for libraries supporting advanced research in the area, particularly in the historical and social science fields.—*D.G.*

Science & Technology

Dean, Genevieve C. *Science and Technology in the Development of Modern China; an Annotated Bibliography.* [London], Mansell, 1974. 265p. £6.95. 74-76296.

"The specific nature of the problems and precise goals of development vary from country to country. Nevertheless, it is possible to define development . . . in terms broad enough to encompass both the objectives of development policies in the Peoples' Republic of China and in countries with widely differing social, economic and po-

litical structures" (p.*vi*). This bibliography, then, while concentrating on the Chinese experience will also have utility for the study of science policy and development in other developing countries. The work is in five main sections: (1) Technology and growth; (2) Technology policy; (3) Science policy; (4) Scientific activities; and (5) Technology in China. Appendixes list writings on modern science and technology in China before 1949 and on traditional Chinese science and technology. Entries are annotated, some at considerable length. The division of the author index according to primary, secondary, and tertiary materials seems an unnecessary refinement.—*E.S.*

Environment

Onyx Group, Inc., comp. and ed. *Environment U.S.A.; a Guide to Agencies, People, and Resources.* Glenn L. Paulson, Advisory Editor. N.Y., Bowker, 1974. 451p. $15.95.

Many kinds of information useful for students and workers in environmental fields are incorporated into this new directory. Lists of federal agencies, state agencies, and private organizations give full directory information: name, address, telephone, principal officer and, usually, statement of purpose. Consultants, with specialties; environmental officers of corporations; and major national unions active in the field form three more lists. There are chapters on environmental employment, educational programs, library resources, fund raising, environmental law, and a list of 1974 conferences. Two bibliographical sections list pertinent films (with source, price, rental cost, and short description), and more than 1,000 books, articles, and reports of recent date, with full bibliographical details. A glossary and two indexes, one of federal agencies in classed order, the other (alphabetically arranged) of government and private organizations, consultants, and consulting firms, add reference value. Periodical updating is planned, but no schedule is mentioned.—*R.K.*

New Editions and Supplements

Words into Type (2d ed. 1964; *Guide* AA255), based on studies by Marjorie E. Skillin, Robert M. Gay, and other authorities, has appeared in a "third edition, completely revised" (Englewood Cliffs, N.J., Prentice-Hall, 1974. 585p. $12.50) under the general editorship of Catherine B. Avery. There has been considerable rearrangement of the contents in an effort to enhance the usefulness of this now standard style manual.

Mary Anne Ferguson's *Bibliography of English Translations from Medieval Sources, 1943–1967* (N.Y., Columbia Univ. Pr., 1974. 274p.; Records of Civilization; Sources and Studies, no.88. $15.00) is a supplement to Farrar and Evans' bibliography of the same title (1946; *Guide* BD4). It follows the principles and arrangement of the earlier work, and includes 1,980 annotated items, with index.

The 1968 *List of National Archives Microfilm Publications* has been superseded by a new publication of the U.S. National Archives and Records Service, *Catalog of National Archives Microfilm Publications* (Wash., 1974. 184p.). Format has been enlarged, the index is now computer-produced, and in the Appendix ("Numerical list of microfilm publications") an asterisk indicates new films prepared since the 1968 catalog was issued.

A second edition of *The Oxford Dictionary of the Christian Church,* edited by F. L. Cross and E. A. Livingstone (London, Oxford Univ. Pr., 1974. 1,518p. $35.00), shows general revision and updating (of bibliographies as well as in textual matter) and the insertion of a number of new articles. Special attention was given to fuller treatment of the Eastern Orthodox Church. Well established as a handy reference source for the student of the Bible, the *Oxford Bible Atlas,* edited by Herbert G. May, has appeared in a revised second edition (London, Oxford Univ. Pr., 1974. 144p.) and is available in hard cover at $9.95 or in paperback at $3.95.

Publication of volume 1, covering the period 600–1660, brings *The New Cambridge Bibliography of English Literature* near completion (i.e., a general index remains to be published). Like the previously published volumes 2–4, this truly king-size volume (Cambridge, Univ. Pr., 1974.

2,476 col. plus index) adheres to the plan of the 1940 *CBEL* (*Guide* BD309). "Apart from the historical aids which appeared in 1940 as Social and Political Background, no section has had to be dropped" *(Pref.). Sixteen Modern American Authors; a Survey of Research and Criticism,* edited by Jackson R. Bryer (Durham, N.C., Duke Univ. Pr., 1974. 673p. $10.00), is a revised and expanded edition of *Fifteen Modern American Authors* (*Suppl.* 3BD36). A bibliographical essay on William Carlos Williams has been added to the original fifteen, and a supplementary section is appended to each of the earlier contributions, bringing the record down through 1971, with some items as late as 1973 noted.

An indispensable work for student, teacher, and music librarian, Vincent H. Duckles' *Music Reference and Research Materials* (*Guide* BH1) is now available in a third edition (N.Y., Free Pr., 1974. 526p. $10.95). The new edition includes more than 1,900 annotated entries.

A revised edition of *The Negro Handbook* (1966; *Suppl.* 1CC16) appears under the title *The Ebony Handbook* (Chicago, Johnson, 1974. 553p. $20.00). In addition to general updating, there has been extensive rearrangement of the sections, and much of the text is new or revised. "Black" is now used throughout, rather than "Negro" as in the earlier edition.

A series of bibliographical articles covering books published 1967–72 comprises the major portion of the supplementary volume (Toronto, Oxford Univ. Pr., 1973. 318p. $18.50) to *The Oxford Companion to Canadian History and Literature* (*Suppl.* 2DB14). Prepared under the general editorship of William Toye, the work also includes a few new topical entries (e.g., "children's books," "translations") and some new or revised entries for Canadian writers. —*E.S.*

CORRECTION

Imre T. Jármy, head, Microform Publications, Catalog Publications Division, Library of Congress, reports a correction in the description of *Newspapers in Microform,* described in *C&RL* 35:250 (July 1974). The statement that both volumes cover the period 1948–1972 is incorrect. Mr. Jármy writes: "The dates 1948–1972 indicate that this is a cumulative edition of reports received during the period 1948–1972. Our policy is to publish all microform reports regardless of when the newspaper existed."

Letters

To the Editor:

Jessie Carney Smith, in her excellent article "Special Collections of Black Literature in the Traditionally Black College" (*C&RL*, September 1974), neglects to mention one important fact. That is her own role in making available to librarians and researchers the catalog of the distinguished Negro Collection at Fisk where she is University Librarian.

With the participation of Mrs. Smith and her staff, G. K. Hall and Co. is currently involved in publishing that card catalog in book form. It thereby joins the published catalogs of the Moorland Collection at Howard and the Schomburg Collection of the New York Public Library, both of which she describes (as well as other black collections not included in her study) and which are also published by G. K. Hall.

Richard Newman
G. K. Hall & Co.
Boston, Massachusetts

"Overdue Policies"

Four letters have been received commenting on the article "Overdue Policies: A Comparison of Alternatives" by Jan Baaske, Don L. Tolliver, and Judy Westerberg which appeared in the September 1974 issue of this journal (p.354–59).

Pertinent extracts from these letters are presented below with a response by one of the authors, Don L. Tolliver, executive director of learning resources, University of Wisconsin-Whitewater.

To the Editor:

It is incredible that the authors would have concluded that "a search of the literature produces scant statistical data" to support the assumption that overdue notices are "a necessary part of library materials" (p.354). It is even more appalling to see such a statement in a learned journal while undergirded by a bibliography which includes only six—count them—six references to the literature, none of which is more than five years old.

. . . During my doctoral studies, I spent nearly three years in probing into the various aspects of the delinquent borrowers in academic libraries. In my dissertation, the results of these investigations were carefully and fully summarized. In that particular piece of "library literature," I described how I undertook to determine the differences, if any, which occur in the return rate of materials of delinquent borrowers as related to various stimuli (overdue notices).

. . . In order to test how these overdue notices influenced the response in a significant manner, data were gathered subsequently regarding the rates of response. The findings showed that statistically significant differences in response existed the more direct the stimuli and in the predicted manner.

The conclusions drawn by Baaske, Tolliver, and Westerberg in a way corroborate the results of my earlier study, that is that overdue notices "appear to have an important reminder effect and improve the return rate of overdue books" (p.359). In fact, in my summary it was suggested that future research in this area might be undertaken by introducing other variables as treatments. The effort to test the effectiveness of the threat of encumbrances in urging students to return library materials is an excellent example of what I had in mind.

By no means do I wish to denigrate the statement of the problem, the description

of the design and procedures, nor the results of the research described by the Purdue trio. No matter how sophisticated the design and implementation of a research project, however, there is nothing that supersedes certain fundamentals of scholarly investigation. In this case, the answers to the basic questions of whether the problem is one which had never been solved; or had previous research on the subject been found and examined; or can the results of other research be used in solving the present problem—all seem to have been less than thoroughly explored.

Le Moyne W. Anderson
Director of Libraries
Colorado State University
Fort Collins

Response:

Essentially, Dr. Anderson stresses the need for thorough literature reviews of previous research on the subject under study. I agree 100 percent with his criticism and regret that during the course of our work we did not find his 1970 Ph.D. thesis entitled "Delinquent Borrowers in an Academic Library." With his work in hand, we could have potentially made a more significant contribution to library literature. One word in our defense: In the real world of a library research unit, one works within the constraints of management needs, time, and cost factors per study. When a real problem is at hand, one does not always have the luxury of time necessary for an extended literature review. Often alternatives must be suggested to management immediately in order to meet deadlines for policy formulation.

Don L. Tolliver

To the Editor:

. . . There seems to be a tendency to assume that as long as statistical tests of validity are met then the conclusions are sound. . . . An example of uncontrolled variables can be seen in the article by Baaske, Tolliver, and Westerberg. . . .

One must assume that Purdue University has a published overdue policy which includes fines and threat of encumbrance. Therefore, the fact that subjects did not receive notices or formal threats of such action does not mean that they were ignorant of normal policy and perhaps affected by it. In other words, environmental constraints may have been such that a true test of the effect of different notices, or lack of them, was impossible.

The authors conclude that overdue notices "appear to have an important reminder effect and improve the return rate of overdue books." Unless a more exhaustive study of the data exists which was not published, this seems unproved. We still lack conclusive proof that the length of the loan period is preeminent in determining book returns. We suspect that different types of borrowers, e.g., undergraduate vs. graduate students, have different book use period requirements. And it is entirely possible that some differentiation in use periods might be identified on the basis of subject field. Thus it would seem that a true test of the effect of overdue notices could only be conducted in a less contaminated environment, utilizing a more homogeneous group of borrowers, and focusing on book returns in a particular subject area.

Robert L. Burr
Director of Circulation
Earl Gregg Swem Library
The College of William and Mary in Virginia
Williamsburg

Response:

Uncontrolled variables can always contaminate results, especially if they are generated in a systematic fashion. One way to minimize their effect is to employ a random sampling technique. Any contamination effects which might have been present were probably randomly distributed across subjects, thus, not systematically affecting the data. In other words, subjects in each treatment group, in all probability, had an overall equal awareness of the library's existing overdue policies. There could well have been some contamination from learning effects, in that subjects depended on overdue notices as a reminder to return books. Yet, a review of the data generated by a small pool of subjects (who were first-time users of the library and therefore in all probability had not learned to depend on overdue notices) revealed the same results as presented in the study. In a sense, the subjects assigned to group A served as

a control group to which one can make comparisons regarding the effects of the other treatments.

This study did not address the issue of varying loan periods nor were we particularly interested in differences between different types of borrowers or differences in fields of study. Such an approach would have served to limit the degree to which we could generalize our findings. In summary, we needed to know the effects of overdue notices, threats, etc., as related to the user population in general.

Don L. Tolliver

To the Editor:

The experimental design of the Baaske, Tolliver, and Westerberg study of overdue policies reported on page 355 of the September issue calls for three observations on each subject. Presumably, the subjects are people, borrowers. . . .

It will be noted that the criterion measure, the observation, was in terms of the percentage of books returned. What values can this percentage assume? Only two possibilities, as I see it: a borrower in any treatment group either has returned his book on a given day, or he hasn't. The percentage is either 100 or 0. No other values are possible. In other words, we have data of nominal quality. This is the question asked to obtain O_{21}, for example: on day 28, has borrower 1 in group A returned the book, yes or no?

This raises two serious questions about the study.

(1) Were the observations really premeasures and postmeasures, as the authors claim on page 356? I say they were not. O_1, O_2, and O_3, for example, are not three successive observations on the same subject. Instead, as soon as an observation takes on the value of "yes" that subject is eliminated from the study.

(2) More important, were the observations of high enough quality for arithmetic treatment? Again I say, no! The answers were in terms of "yes" and "no." If you add a "yes" and a "no" and divide by two, what is the result? A mean of "maybe"?

Since the analysis of variance design employed by the authors requires data of at least interval quality, I have concluded, for the moment, two things:

(1) This study to determine the differential effect of overdue warning alternatives on return rates has miscarried.

(2) Our profession needs more concern with methodology, not less. And don't listen to the change for change's sake people!

Herbert H. Hoffman
Catalog Librarian
Santa Ana College
Santa Ana, California

Response:

Mr. Hoffman's comments concerning the design are technically correct. A true Campbell & Stanley design was not employed, for subjects did "drop out" along the way. Perhaps if the study were done again, a chi-square (X^2) test would be employed. However, the same results would likely be found and similar conclusions drawn. Another statistical test which is equally effective is the test of differences between proportions or percentages. Thus, the findings remain as follows: At the time measures were taken, the percentages of books returned clearly were not the same under the three treatments.

Mr. Hoffman's statement that the data aren't worth analysis is erroneous. Also his statement that analysis of variance requires interval data is also wrong. It is quite common to perform ANOVA on ranked data, which is ordinal, not interval.

Indeed, our profession needs to be concerned with methodology, and *constructive* criticism is helpful; yet let us not lose sight of a more important issue, namely, knowing which questions merit the energy necessary to complete a study.

Don L. Tolliver

To the Editor:

. . . The authors are to be commended for the relatively complete description of the methodology they employed. However, some questions need to be raised regarding this methodology as well as the final conclusions reached by the authors.

(1) A total of 4361 transactions were "randomly assigned to either treatment group A, B, or C." But the resulting assign-

ment of 969, 1524, and 1868 transactions, respectively, is so unlikely as to defy belief. (A chi-square test of the hypothesis of equal likelihood is rejected at an exceedingly low level: $p << .0001$.) Is there an explanation for this phenomenon?

(2) The authors' statement that all pairs of means are significant at the .05 level appears to be contradicted by another statement appearing later in the same paragraph: "no significant difference in return rate was found between Ss in Group A (overdue notice and threat of encumbrance) and Group B (overdue notice only)" (p.358). And in their conclusion, the authors write, "The threat of encumbrance is effective in urging students to return library materials near the due date" (p.359). When the threat of encumbrance is accompanied by an overdue notice, this conclusion also seems to be contradicted by the first-quoted statement above. Which of these statements accurately reflects the authors' findings?

(3) Finally, a major conclusion of the authors is that "the encumbrance system does not appear to have the cumulative and deterring effect of a fine system" (p.359). This conclusion appears to be entirely unsupported by the study, in which the effect of fines on book return rates is not an examined subject.

Stephen P. Harter
Library Science/AV Program
College of Education
University of South Florida
Tampa

Response:

Mr. Harter's comments concerning unequal Ns is important. In this study, the assignment of subjects to one of the three treatment conditions was determined by the last digit on each checkout card. Unfortunately, from the pool of transaction cards used, more cards happened to have last digits which, based on the instructions given circulation personnel, provided for automatic assignment to Group C rather than Groups A or B.

Unequal Ns do not diminish the quality of a study, although they can be difficult to interpret or can be misleading. The analysis used did allow for these very large unequal Ns.

Mr. Harter is correct in indicating that the effect of fines on book return rates is not directly examined in this study. As indicated in the study report, no statistically significant difference in return rate was found between subjects in Group A (overdue notice and threat of encumbrance) and Group B (overdue notice only). Thus, it was incorrectly reported that *all* pairs of means were significant at the .05 level. This was the only comparison of means that was *not* significant at the .05 level. However, the trends as illustrated in Figure 2 indicated that threat of encumbrance has some effect in encouraging students to return library materials nearer the due date. In this study, this effect was not statistically different from receiving an overdue notice only. Yet, the trends still pointed in that direction.

Perhaps an observation is worth noting at this time. While results of field research may not be perfect, such results (especially when studies are replicated) certainly can provide library management with needed information and are far better than no research at all.

Don L. Tolliver

Recent Publications

COLLEGE & RESEARCH LIBRARIES

BOOK REVIEWS

Jackson, Sidney L. ***Libraries and Librarianship in the West: A Brief History.*** New York: McGraw-Hill, 1974. 489p. $12.95.

I think it would be possible to write a review of *Libraries and Librarianship in the West* which would not be openly hostile or negative. I found it impossible for me to write such a review.

Dr. Jackson has bitten off more than anyone can chew. Question: How is it possible to cover the history of libraries and librarianship prior to the Renaissance in less than 100 pages? Answer: It isn't, but that's what this book attempts to do. Question: If you are writing a history which theoretically stops at 1919, why provide a skimming summary of the next fifty years? Answer: I don't know! Imagine covering the ideas and events associated with the civil rights movement in libraries, the information explosion, open stack libraries, and all the other problems of librarianship in the twentieth century in thirty pages: impossible! In the final analysis, Dr. Jackson doesn't really give us much library history that isn't already available in published sources (which he, himself, acknowledges in his preface), but he does squirm a lot giving us many bits and pieces in an attempt to put too much information in too little space.

In its overall plan, the book badly needs a good editor, but it is clear that no good editor has been allowed near the manuscript. In the first eight pages I found five sentences that either mean nothing, are ambiguous, or don't say what they obviously are intended to mean. At the end of those pages, I quit counting. For some unspecified reason, the book has an alphabetically arranged bibliography followed by a chapter-by-chapter listing of "Additional References." Then it has a "Main Index" only three and one-half pages long followed by a separately alphabetized "Subject Index." And as if that weren't enough, it is

one of those paperback books doctored to have the appearance of a regular hardbound trade edition—presumably to help keep buyers from screaming at the outrageous $12.95 price.

An acquaintance of mine, an anthropologist, once said of a horrible book about the American Indian that, "In every library there should be a place for at least one truly bad book." I leave you with that thought.—*W. David Laird, University Librarian, University of Arizona, Tucson.*

Irvine, Betty Jo. ***Slide Libraries: A Guide for Academic Institutions and Museums.*** Littleton, Colo.: Libraries Unlimited, Inc., 1974. 219p. $12.50.

Slide Libraries is an ambitious undertaking. There has been no attempt before in the literature to create a complete guide to the establishment and management of slide libraries; this is a commendable first effort by Betty Jo Irvine. It covers the breadth of the field—the historical development of photography and slidemaking, professional qualifications for slide library staffing, classification and cataloging of slides, use of standard "book library" techniques, acquisition and production methods, storage systems, layout and planning of physical facilities, projection systems, equipment and supplies—but in 157 pages of text it cannot deal with most of these topics in enough depth to make it a definitive manual. The chapter on classification and cataloging, for instance, describes in only 20 pages the diverse classification systems of seven different institutions. Such brief descriptions may confuse more than they enlighten unless the reader understands them as introductions to alternative solutions and follows up the leads to primary sources for more detailed information.

The book does present a broad overview and identifies the major organizational watershed decisions that must be made in establishing a new collection—what cataloging strategy to follow, whether to organize and file in fixed sets or by individual image, whether to store for maximum interfiling expandability or for maximum visual display, etc. To these questions Ms. Irvine does not offer dogmatic solutions, but suggests a variety of options as they might apply in a variety of situations. Answers to the tough questions are, therefore, indecisive and may leave some readers dissatisfied. Part of the problem is that an all-encompassing book on slide libraries must speak to museums, instructional media centers, and teaching departments in art and other academic subjects, as well as to libraries in the traditional mold.

Perhaps the strongest feature of the book is the fifty-plus pages of source material following the text: a directory of distributors and manufacturers of equipment and supplies, a directory of commercial slide sources, a directory of over 200 slide libraries, and an extensive bibliography of books and articles dating for the most part from the 1960s and 1970s. The book will be generally useful to anyone in the throes of organization; the source features may prove useful to an established slide library. —*Wendell W. Simons, Associate University Librarian, University of California, Santa Cruz.*

Downs, Robert Bingham, ed. ***Guide to Illinois Library Resources.*** Chicago: published in cooperation with the Illinois State Library by the American Library Assn., 1974. 565p. $10.00.

Downs' *Guide to Illinois Library Resources* is a potpourri of information encompassing a broad spectrum of subjects, types of materials, and individuals both local and historical, as well as an extensive bibliography of references to books, pamphlets, etc., which list or describe library collections in Illinois. The impetus for this survey of Illinois resources came from the Illinois Board of Higher Education but was essentially financed by the Illinois State Library. The remaining forty-nine states would do well to follow the example set by the state of Illinois.

The information for this guide was obtained by means of a questionnaire in which librarians were asked to provide detailed information about their collections. Four subject fields—American literature, medicine, law, and music—were surveyed by specialists.

According to the introduction, the *Guide* has the broadest possible scope and is unrestricted as far as library collections are

concerned. It is arranged in alphabetical order and is divided into three divisions: (1) descriptions of collections of subject areas and types of materials; (2) descriptions of collections of biography, bibliography, and criticism relating to individuals; and (3) the bibliography of references to the collections in Illinois as well as an extensive alphabetical index.

Major weaknesses the reviewer noticed in this volume are its general unevenness in style, sparse cross-referencing, and inconsistencies in the subject terminology. The introduction itself indicates that, since no such comprehensive survey had previously been attempted for the state of Illinois, information gaps were inevitable. However, the advantages of this guide far outweigh its stylistic faults and possible information gaps. Here in one volume we find all kinds of subject resources for one state which would otherwise be sought out in many other tools such as the *National Union Catalog,* the *National Union Catalog of Manuscripts,* plus other bibliographies of individual special collections. As a Yorker, I envy the ability of Illinois librarians to locate so many diverse subjects within their state using one tool. The special sections on American literature, medicine, music, and law are especially well done; and these essays in themselves are certainly recommended for short-term reading as one might do during a slow day at the reference desk. But one word of warning in this connection—the book is a real mantrap, and it is all too easy to get carried away from subject to subject, name to name. . . .

The subjects and biographies are rich in Illinois references which alone would make this work a necessity for every public, academic, and research library in Illinois. The breadth of subjects covered and the wealth of materials available to researchers should make this work a national favorite among interlibrary borrowing librarians.

Should future editions of this work be published, a useful appendix might be a list of the libraries surveyed including not only their addresses but also restrictions concerning lending, photoduplication, and in-person borrowing. The reviewer recognizes that such information is available in other tools, but such an addition would be a real convenience for users of the *Guide.*—*Margaret J. Oaksford, Interlibrary Lending and Cooperative Reference Services, Cornell University Libraries, Ithaca, New York.*

Anderson, A. J. ***Problems in Intellectual Freedom and Censorship.*** (Bowker Series in Problem-Centered Approaches to Librarianship) New York: Bowker, 1974. 195p. $10.95.

Although only six of the thirty "cases" described in this volume are directly concerned with intellectual freedom and censorship relating to academic libraries and librarians, all are well worth the attention of readers of *C&RL,* whether experienced or neophyte. Anderson, a Simmons College library science professor, is, of course, dealing herein with perhaps that area of librarianship least susceptible to textbook interpretation and teaching—but he does very well at it.

Dr. Thomas Galvin, editor of the very successful series Problem-Centered Approaches to Librarianship, of which this is the eighth volume, points out in his foreword that there is bound to be a wider gulf between theory and practice in this particular area than in almost any other in our profession. It is one thing to paste up a framed Library Bill of Rights in one's office and quite another to face such a situation as is posited in the case titled "Calories Don't Count." What would *you* do if the head of your home economics department questioned your library's owning and circulating books by Adelle Davis—described by the home economist as "a dangerous faddist"?

And "The Trial of Richard Wetzel," an assistant director of an academic library who admits he hopes "to slant the collection" to suit his own previous position as an admitted member of a Communist party, is certainly not a simple "case" either. Indeed, all six academic-library-related cases which are included are thought-provoking and certainly permit no clear, words-out-of-a-book answer.

As with all of these case-study books, this one provides sample analyses for several of the cases. The ones in this volume seem ponderous and overdetailed. One wonders what kind of models these wordy, almost pompous statements of the obvious will be for the library science students who pre-

sumably will be trying to use these boring recitals as exemplars. Most bright students will benefit from ignoring the prescribed and stodgy and doing their own thing. The perspicacious Anderson questions at the end of each case are surely guides enough.

Perhaps some day a study will be made of the academic library's problems with censorship and possible violations of intellectual freedom; until then, this volume will more than repay the time spent in reading it by any professional librarian who works in an academic library. As a quotation from Thomas Paine which begins the volume says, "those who expect to reap the blessings of freedom must undergo like men the fatigue of supporting it." Amen!—*Eli M. Oboler, University Librarian, Idaho State University, Pocatello.*

Mumby, Frank Arthur, and Norrie, Ian. ***Publishing and Bookselling. Part One: From the Earliest Times to 1870,*** by Frank Arthur Mumby. ***Part Two: 1870–1970,*** by Ian Norrie. 5th ed. London: Jonathan Cape, 1974; distributed in the U.S. by Bowker, New York. 685p. $33.50.

The first four editions of this work appeared in the years 1930–1956. The present edition, the fifth, has been revised by Mr. Ian Norrie. The first part of the work, covering the period from classical times to 1870, has been revised only slightly. Perhaps in some future edition Mr. Norrie or a later editor will have time to revise this portion of Frank Mumby's book extensively, for a great deal of research on the history of the book has been done in the last three decades, the results of which ought to be incorporated. The remark is not intended as a criticism of Mr. Norrie. He cannot be taxed for not doing that which he never intended to do, nor that which he had not time to do.

The second part of the book is devoted to the hundred years 1870–1970, and is wholly Mr. Norrie's work. Mumby noted indirectly in his preface to the first edition that a difficulty in writing a history of publishing is to avoid producing a book which is a series of histories of individual publishers. Ian Norrie has overcome that difficulty by interspersing his accounts of individual companies with a number of chapters headed "Trade Affairs," in which are treated the activities and problems of bookselling and publishing as a whole.

There are a few minor blemishes in the second half of the work. On the first page of that portion the author says that the encouragement of "the civilizing force in *Homo sapiens* . . . is the basic business of the British and every other book trade." It is an imposing statement. In the pages that follow it is not always apparent that those in the book trade have kept this primary objective well in mind. The author also discusses the proposal by government in 1940 to impose a sales tax on books, a proposal vigorously opposed by the book trade. Of those fighting the tax the author says that "Europe was disintegrating around them. At any moment each and every one of the people concerned with the fight against the purchase tax might be fleeing for their lives from the Gestapo, but they were able to concentrate their minds on this important issue. And they won." It is worth recalling what else was occurring in 1940 aside from the epic struggle against the tax on books. The German Panzer divisions smashed the Allied armies, and France was defeated. Three hundred thousand British soldiers were gotten off the beaches of Dunkirk by the strenuous efforts of the Royal Navy and its civilian auxiliaries. The pilots of the RAF, those to whom so many owed so much, won the Battle of Britain. It is barely possible that there might be two views of a group who in Britain's finest hour concentrated their efforts on defeating a proposed tax on a commodity which they were marketing. It should be emphasized that these criticisms are directed at relatively few pages in a book of more than six hundred.

The bibliography of publishing and bookselling by William Peet which was an appendix to the first edition also appears in this edition, and it has been brought up to date by Monica Carolan. There are other appendixes: a list of the officers of the Publishers' Association and of the Booksellers' Association from the 1890s to the present time; a table giving the number of books produced in subject categories for significant years; and another table giving the total value of book sales in pounds sterling for important years. The work will be probably most valuable as a reference book.

Those who read it for pleasure may find that six hundred pages on book-trade history is at times grim going.—*D. W. Davies, Lloyd Corporation Ltd., Claremont, California.*

Thompson, Donald E. ***Indiana Authors and Their Books, 1917–1966.*** Crawfordsville, Ind.: Wabash College, 1974. 688p.

In a superficial sense this volume represents an exercise in vanity. Funded by Hoosiers, sponsored by Hoosiers, prepared, published, and distributed by Hoosiers, it is a biographical directory of Hoosier authors of the half century from 1917 to 1966. We take care of our own. . . .

But the motivation for the present volume has some nobler aspects as well. Indiana *has* produced substantially more and better authors than one would normally expect. When the ten best-selling American novels for each year from 1895 to 1965 are assigned points (ten for first place, nine for second place, etc.), and their authors' native states are determined, the total points amassed by Indiana authors are second only to those of New York State. Indiana is also second only to New York State when fiction and nonfiction are taken together. Yet the population of Indiana has never attained one-fifth that of New York State.

No one knows why authorship has so flourished in Indiana, and although the present volume does not attempt to explain it, it does lay out the data necessary for future analysis. Here are biographical sketches of the 2,751 authors who made it happen. Every author included either was "born in the state, or [if] born elsewhere, chose to spend the majority of his or her maturity within Indiana bounds." Authors solely of pamphlets, periodical articles, textbooks, genealogies, and similar publications are not included. A wide net has still been cast, however, and as a result the volume contains biographical sketches of authors as different as Kenneth Rexroth is from Vance Hartke, and as Ernie Pyle is from Alfred C. Kinsey. Much of the information presented on the lesser figures is virtually unobtainable through any other source.

The present biographical directory is a continuation of a similar work compiled by R. E. Banta and published in 1949 entitled *Indiana Authors and Their Books, 1816–1916.* The two works together, therefore, now provide coverage for Indiana's first century-and-a-half of statehood. The new work matches the Banta volume both in quality of contents and in format and design. Yet it also suffers the same basic weakness. Since the coverage attempted is so broad, it is unlikely ever fully to be attained. It is ironic, for example, that this reviewer, although gratified to find his own name in the new volume, must point out that his father, who also meets the criteria for inclusion, is unaccountably omitted. Other and more important omissions will be turning up for years. Such oversights, however, do not mean that this book will not serve a useful reference function in large libraries or in smaller ones with special interest either in authorship or in the Hoosier state.—*David Kaser, Graduate Library School, Indiana University, Bloomington.*

Palmer, Richard Phillips. ***Case Studies in Library Computer Systems.*** New York: Bowker, 1973. 214p.

This book consists of twenty case studies of computerization of classical library procedures and comments; there are no cases of network computerization. Six cases deal with circulation systems, eight with serials systems and six with acquisition systems. Graduate students in the School of Library Science at Simmons College did "much of the initial gathering of information." The author made additional on-site visits and wrote up the cases. He also introduces the book and summarizes it.

The purpose of the book "is to describe and document a number of operational library computer systems, including their cost, so that librarians and library school students may better determine whether computers should be stamped out or whether they are appropriate for library use." (The phrase "stamped out" comes with Ellsworth Mason.) The author concludes that although there have been failures in library computerization, there also have been successes, and some of these successes are cases that appear in the book. He anticipates that there will be an increasing number of successful library computer applications in the decade that lies ahead.

By and large, the objectives of the cases

presented do not make possible new library objectives as do computerized networks. Rather, the goals are managerial and the provision of new service. It is the attainment of these objectives in some of the cases that clearly entitles the computerization described to be successful.

Case Studies in Library Computer Systems is a good book. Library school students and those librarians continuing to be students will learn much from this work.—*Frederick G. Kilgour, Executive Director, Ohio College Library Center, Columbus.*

Dougherty, Richard M., and Blomquist, Laura L. ***Improving Access to Library Resources: The Influence of Organization of Library Collections and of User Attitudes Toward Innovative Services.*** Metuchen, N.J.: Scarecrow, 1974.

In a study supported by a grant from the National Science Foundation, Dougherty and Blomquist state that they will investigate the influence of academic library organizational structure on the effectiveness of the library's document delivery service. The title of the study leads one to expect a broad investigation that will cover the many different aspects of the relationships between organizational structure and library effectiveness, but the investigators have focused their attention on a very small portion of this topic. They are interested in the decentralized organizational structure of an academic library and the research needs of one group of users in the university community—academic faculty. The scope of the study is disappointingly narrow.

The stated purpose of the study is to probe faculty attitudes toward library effectiveness, to examine the effect of dispersion of resources on these attitudes, and to determine whether document delivery systems produce changes in user attitudes toward the library. The libraries and faculties at Syracuse University and Ohio State University were used in the study.

The methodology developed by the investigators includes a sampling design, data collection instruments, and statistical analysis. The sampling design is a major weakness of the study because the samples of faculty members drawn at the two universities are not comparable. A random sample of 10 percent of the Syracuse University faculty was drawn, but a self-selected sample of less than 1 percent of the Ohio State University faculty was used. Although the authors note the limitations of the samples, they use them, because they feel that the attitudes expressed by the faculty members in the sample are indicative of those of the total faculty. In a research study this procedure is not acceptable.

Six methods were used to collect data for the study: personal interviews, subject interest profiles, shelflist location counts, distance measurements, a document exposure index, and an expectation rate. Limitations of two of the measures (interest profiles and the shelflist count) are discussed by the authors. The document exposure index and the expectation rate are special instruments developed to measure faculty members' attitudes toward the library system and their success in retrieving resources from the collection; both are based on a ten-point scale. The instruments used and the tabulations of the data collected appear in the appendixes and constitute one-half of the report.

Upon examination, the data collection instruments appear to be more complex than the problem under investigation warrants. The appropriateness of the ten-point scale used in the two special measures is open to some doubt because such a scale implies a precision that does not exist in these data.

The major portion of the study is devoted to reporting the results of the data analysis, as is proper in a research report. Data collected at Syracuse University were subjected to sophisticated statistical testing, such as analysis of variance and regression analysis, to determine if hypothesized relationships were present. The major finding of these analyses is that "many users apparently are willing to forego accessibility to potentially relevant materials in favor of convenience of access." While this is hardly new information (it has been reported regularly in the *Annual Review of Information Science and Technology*), it does have implications for libraries.

At the beginning of the section comparing faculty expectation rates at the two universities, the authors state that "the two samples are not comparable statistically speaking." Since the authors discount the

validity of their sample and give no reasons why the reader should accept its validity, it does not seem worthwhile to consider the results of these analyses. The section on the evaluation of the document delivery service deserves only slightly more attention because the quality of sampling at Ohio State University affects the quality of the data collected. Not surprisingly, the authors found that "Ohio State University faculty who used the document delivery service held much more favorable attitudes toward the library as an information source and were very enthusiastic about the value of a document delivery service for faculty and graduate students." In the final chapter, "Other Findings of the Investigation," an interesting group of miscellaneous facts is presented. There are no suggestions for further research.—*Barbara Slanker, Director, ALA Office for Research, Chicago.*

Thompson, Lawrence S., comp. ***The New Sabin; Books Described by Joseph Sabin and His Successors, Now Described Again on the Basis of Examination of Originals, and Fully Indexed by Title, Subject, Joint Authors, and Institutions and Agencies.*** Troy, N.Y.: Whitston, 1974. v.1 and index (in 2v.). v.1, $25.00; index, $10.00.

Do we need a new Sabin? By rough calculation, the cost of this projected set is likely to be at least $1,500 (assuming prices remain at their present level), so librarians will want to examine it very carefully before deciding to invest this sum.

The ultimate scope of *The New Sabin* has not yet been established; although initially limited to items from Joseph Sabin's *Dictionary of Books Relating to America,* the compiler speaks in the preface of the possibility of adding items from other bibliographies such as Lyle Wright's *American Fiction, 1774–1850* in future volumes. This first installment consists of two volumes, one of which is an index to the other. Each main volume is to be a complete alphabet, but future index volumes will be cumulative and will include author entries. The main volume under consideration here "represents books which have been seen by the compiler in the original or one *[sic]* film, and the entries are copies of the descriptive portions of Library of Congress cards for the most part" (Preface). Although Sabin's original entries are often abbreviated and sometimes inaccurate in their particulars, most Sabin users are able to locate the Library of Congress entry, if one exists; this *New Sabin* innovation is actually a minor convenience. Moreover, Sabin's original annotations have been omitted entirely from the new work. For access to these valuable notes, often including information about other editions, the reader will have to use the original Sabin bibliography, making the new arrangement even less of an advantage. And since no provision has been made for correlating *New Sabin* and *Dictionary* entry numbers, working back from *New Sabin* to the *Dictionary* is not always an easy matter.

No location information is given in *The New Sabin,* even though the compiler has seen each item in the original or on film. It is left to the reader to locate copies through the use of other bibliographies, whether union lists or indexes to microform sets. Although Lost Cause Press is publishing selected works from Sabin's *Dictionary* in microform (for which Lawrence Thompson is also doing the bibliographic work), there is no indication that *The New Sabin* is connected with that set. Lost Cause Press itself is issuing catalogs which give Library of Congress entries for the Sabin works it is publishing in microform.

According to the compiler, "the greatest value of the present work is the subject index, combined with all other useful entries such as those for joint authors, issuing agencies, sub-titles, etc." The subject index, apparently based on Library of Congress headings, is certainly adequate for subjects on which little has been written; but, if the topic is the Civil War or George Washington, the reader is faced with a discouraging mass of undifferentiated item numbers. As the set grows larger the numbers will multiply, and many headings will become virtually useless. If the main arrangement of the new work were by subject, or if the complete entry were listed, the reader could more easily pick out appropriate items. It does seem that if *The New Sabin* has any contribution to make, it is by providing subject access to these early printed books and pamphlets, many of which may not turn up in subject bibliographies.

Many smaller failings—poor copy editing and outright errors—contribute to the impression of a poorly planned, hastily put together work. *The New Sabin* by no means supersedes Joseph Sabin's monumental *Dictionary,* and in its present form it fails to make a significant contribution of its own to the bibliographical control of Americana. *—Doris Ann Sweet, Columbia University Libraries, New York City.*

Carter, Mary Duncan; Bonk, Wallace John; and Magrill, Rose Mary. ***Building Library Collections.*** 4th ed. Metuchen, N.J.: Scarecrow, 1974. 415p.

This fourth edition of a library school "classic" has grown by some hundred pages yet remains, unsurprisingly, no more than a once-over-lightly of the complexities of acquisitions theory and practice. In an attempt to be inclusive it ranges from discussion of selection philosophies through description of national and trade bibliographies to a brief analysis of the uses of fanfold processing slips. As an introduction the text has already proven effective, although its usefulness is limited for experienced librarians.

The orientation is definitely toward public libraries, with an emphasis on the varying factors involved in book selection for different types and sizes of user communities. In an informally readable style the text restates commonsense principles and again illustrates that selection is more of an art than a science. Roughly the first half of the book is coverage of general theories while the second half is evenly split between description of acquisition aids and appendixes. The considerable portion of the text summarizing features of major bibliographic tools provides useful example entries to illustrate inclusiveness and format. Of course one difficulty with any book which tries to describe current bibliographic sources is that it is almost certain to be out of date by the time of publication. This edition has already missed the metamorphosis of *Publishers' Weekly,* the fifteenth edition of Ulrich's, and of course the recently announced separation of *Library Journal* and *School Library Journal.*

Discussion of the publishing trade and acquisitions practices is sketchy (e.g., no mention of NPAC), but throughout the book expanded bibliographies at chapter ends recommend a good range of additional material and have been brought well up to date. The approximate quarter of the volume devoted to appendixes offers a useful assortment of ALA Council statements on the freedom to read and a variety of quotations from book selection policies. Another interesting section is the text of the June 1973 Miller vs. California Supreme Court obscenity decision.

Occasional lapses in editing, generally of the typographical variety, are still evident in this new edition. Perhaps it was my misfortune to encounter the only blind cross reference in the index when I chose to look up USBE. However, even these minor slips are regrettable in a text which presumably will be read with close attention by prospective librarians.

In summary, the book is fine for its intended audience but of limited utility beyond library school classes.—*Karen Horny, Assistant University Librarian for Technical Services, Northwestern University Library, Evanston, Illinois.*

Schad, Jasper G., and Tanis, Norman E. ***Problems in Developing Academic Library Collections.*** New York: Bowker, 1974. 183p.

Collection development and acquisitions problems have often been relegated a minor role in library school curricula. The reasons for this vary, but the net result is the same—graduates with little practical, let alone theoretical, basis for action. In an attempt to counter this situation, the authors, both library directors, have created thirty case studies based on real situations, ranging from one to twenty pages in length. Superficially viewed, these studies might appear to be lacking in depth and subtlety, but a careful reading proves this not to be the case. Each situation is carefully constructed to present directly or by inference problems and dilemmas concerning a surprisingly broad range of topics.

Especially important for the student is the political and economic backdrop against which these problems are cast. Who really implements library policy? What is the proper balance between the academic administration, the library administration, the library staff, the faculty? Who controls

the allocation of book funds? Additionally, intralibrary questions of power and responsibility are interwoven with classical problems relating to territorial imperatives, adversary relationships, tradition, and innovation.

This, then, is the background on which the concrete problems are displayed. Among the major themes under review are the consequences of approval plans, faculty and/or library responsibility for book selection, acquisitions policies, rare book/special collections versus ordinary needs, budget cuts and increases, faculty challenging the relevancy of purchases, and the question of such axioms as "building on strength." These, and issues such as the intellectual prerequisites and perspective of library staff and faculty in collection development, focus on topics germane to academic librarianship today. Perhaps the most important element in congealing these studies into a coherent whole is the dextrous interplay of issues and personalities. The ability to isolate problems and, additionally, to place the problems in a realistic matrix of human interaction demonstrates considerable sensitivity to the forces at work. This is a constructive and provocative book which, hopefully, will find its way into the hands of both students and practitioners.—*W. Stuart Debenham, Jr., Assistant Director, Ohio College Library Center, Columbus.*

OTHER BOOKS OF INTEREST TO ACADEMIC LIBRARIANS

Ackoff, Russell L., ed. *Systems and Management Annual 1974.* New York: Petrocelli Books, 1974. 620p. $24.95. (74-6464). (ISBN 0-88405-280-X).

Armitage, Andrew D., and Tudor, Dean. *Annual Index to Popular Music Record Reviews, 1973.* Metuchen, N.J.: Scarecrow, 1974. 681p. (73-8909). (ISBN 0-8108-0774-2).

Bell, Inglis F., and Baird, Donald. *The English Novel, 1578–1956; A Checklist of Twentieth-Century Criticisms.* Hamden, Conn.: Shoe String Press, 1974. 168p. (74-8609). ISBN 0-208-01442-X).

Body, Alexander C. *Annotated Bibliography of Bibliographies on Selected Government Publications and Supplementary Guides to the Superintendent of Documents Classification System; 4th Supplement.* Kalamazoo: Western Michigan University, 1974. 142p. (67-28593).

Bull, Storm. *Index to Biographies of Contemporary Composers.* v.2. Metuchen, N.J.: Scarecrow, 1974. 567p. $18.50. (64-11781). (ISBN 0-8108-0734-3).

Cambridge Research Institute. *Omnibus Copyright Revision; Comparative Analysis of the Issues.* Washington, D.C.: American Society for Information Science, 1973. (73-84952). (ISBN 0-87715-103-2).

Clapp, Jane. *Professional Ethics and Insignia.* Metuchen, N.J.: Scarecrow, 1974. 863p. $27.50. (74-10501). (ISBN 0-8108-0735-1).

Covo, Jacqueline. *The Blinking Eye: Ralph Waldo Ellison and His American, French, German and Italian Critics, 1952–1972.* Metuchen, N.J.: Scarecrow, 1974. 230p. $6.50. (74-13042). (ISBN 0-8108-0736-X).

Davis, Donald G. *Comparative Historical Analysis of Three Associations of Professional Schools.* (Occasional Papers, no. 115) Urbana, Ill.: Graduate School of Library Science, University of Illinois, 1974. 39p. $1.00. (ISBN 0073-5310).

Directory of American Scholars. 6th ed. New York: Bowker, 1974. 4v. $148.50. (57-9125). (ISBN 0-8352-0635-1).

Directory of Health Sciences Libraries in the United States, 1973. Chicago: American Medical Assn., 1974. 196p. $15.00. (74-14292).

Farber, Evan I., and Walling, Ruth, eds. *The Academic Library: Essays in Honor of Guy R. Lyle.* Metuchen, N.J.: Scarecrow, 1974. 171p. $6.00. (74-2098). (ISBN 0-8108-0712-2).

Fink, Gary M. *Biographical Dictionary of American Labor Leaders.* Westport, Conn.: Greenwood, 1974. 559p. $19.95. (74-9322). (ISBN 0-8371-7643-3).

Fout, John C. *German History and Civilization, 1806–1914; A Bibliography of Scholarly Periodical Literature.* Metuchen, N.J.: Scarecrow, 1974. 362p. (74-10803). (ISBN 0-8108-0742-4).

Fundaburk, Emma L. *Art at Educational Institutions in the United States.* Metuchen, N.J.: Scarecrow, 1974. 670p. (74-3187). (ISBN 0-8108-0715-7).

Goldstone, Adrian H., and Payne, John R. *John Steinbeck; A Bibliographical Catalogue of the Adrian H. Goldstone Collection.* Austin, Tex.: University of Texas at Austin, 1974. 240p. (73-620234).

Gunter, P. A. Y. *Henri Bergson, a Bibliography.* Bowling Green, Ohio: Philosophy Documentation Center, Bowling Green University, 1974. 457p. $17.50. (74-78456). (ISBN 0-912632-31-3).

Hewlett-Woodmere Public Library. *Index to Art Reproductions in Books.* Metuchen, N.J.: Scarecrow, 1974. 372p. (74-1286). (ISBN 0-8108-0711-4).

International Index to Film Periodicals 1973. New York: Bowker, 1974. 395p. $28.50. (72-1964). (ISBN 0-8352-0742-0).

Keaveney, Sydney S. *American Painting; A Guide to Information Sources.* Detroit: Gale Research, 1974. 260p. $18.00. (73-17522). (ISBN 0-8103-1200-X).

Kniefel, John L. *Air Laws and Treaties of the COMECON-States.* Berlin: 1974. 4v. (73-92728). (ISBN 3-921334-03).

Library of Congress. *Classification Schedules: A Cumulation of Additions and Changes through 1973.* Detroit: Gale Research, 1974. 32v. $650.00. (73-8530). (ISBN 0-8103-0765-0).

Medieval and Renaissance Studies: A Location Guide to Selected Reference Works and Source Collections in the Libraries of the University of North Carolina at Chapel Hill and Duke University. Chapel Hill, N.C.: University of North Carolina Library, 1974. 325p. $5.00. (Order from Humanities Division, University of North Carolina Library, Chapel Hill, NC 27514.)

Monograph Abstracts. Ann Arbor, Mich.: Xerox University Microfilms, 1973– .

Mountain Plains Library Association. *Conference on Interlibrary Cooperation.* Lyons, Col.: Mountain Plains Library Assn., 1973. 67p.

National Archives Microfilm Publications Deposited with the Regional Archives Branch, Chicago Federal Archives and Records Center, During 1971, 1972, 1973. Chicago: Federal Archives and Records Center, 1974– .

National Science Foundation. *U.S.–U.S.S.R. Copyright Negotiations on Scientific and Technical Journals, June, 1974.* Washington, D.C.: National Science Foundation, 1974. 52p.

Radials Bulletin; Research and Development—Information and Library Science. London: Library Association, 1974– .

Record and Tape Reviews Index. 1973. Metuchen, N.J.: Scarecrow, 1974. 692p. $20.00. (72-3355). (ISBN 0-8108-0720-3).

Rodgers, Bernard F. *Philip Roth: A Bibliography.* Metuchen, N.J.: Scarecrow, 1974. 104p. $5.00. (74-16224). (ISBN 0-8108-0754-8).

Rózsa, György. *Scientific Information and Society.* The Hague: Mouton, 1973. 159p. Dfl., 24,-. (79-184751).

SantaVicca, Edmund F. *Four French Dramatists: A Bibliography of Criticism of the Works of Eugène Brieux, François de Curel, Emile Fabre, Paul Hervieu.* Metuchen, N.J.: Scarecrow, 1974. 177p. (74-7495). (ISBN 0-8108-0755-6).

Smith, Myron J. *The American Navy, 1865–1918: A Bibliography.* Metuchen, N.J.: Scarecrow, 1974. 372p. (74-4230). (ISBN 0-8108-0720-3).

Smith, Myron J. *The American Navy, 1918–1941: A Bibliography.* Metuchen, N.J.: Scarecrow, 1974. 445p. $15.00. (74-11077). (ISBN 0-8108-0756-4).

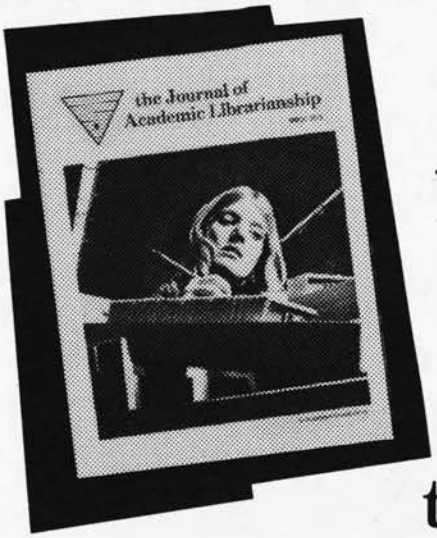
Statistics Sources. 4th ed. Detroit: Gale Research, 1974. 892p. $45.00. (74-2163). (ISBN 0-8103-0396-5).

Steiner, William A. F. P. *Classification Scheme and List of Subject Headings for the Squire Law Library, University of Cambridge.* Dobbs Ferry, N.Y.: Oceana, 1974. 159p. (73-19917). (ISBN 0-379-20060-0).

U.S. Office of Education. *Bibliography of Research Studies in Education, 1926–1940.* Detroit: Gale Research, 1974. 4v. $175.00. (74-1124). (ISBN 0-8103-0975-0).

Vaughn, Robert V. *The Virgin Islands of the United States: Social, Economic, and Political Conditions Referred to in Recent Periodical Literature.* Christiansted, St. Croix: Aye-Aye Press, 1974. 166p. $9.95.

Wasserman, Paul. *Consumer Sourcebook.* Detroit: Gale Research, 1974. 593p. $35.00. (74-10494). (ISBN 0-8103-0381-7).



Announcing

A bimonthly
journal for the
professional librarian

the Journal of Academic Librarianship

An independent voice providing:

* statements on the current and difficult issues facing academic librarians and the results of significant research
* the JAL Guide – key to the literature of librarianship
* articles by academic librarians on specialized topics –
  * **In early issues:** Ralph E. Ellsworth, Jane Flener, Duane Webster, Maryan Reynolds, Paul Dunkin, Allan Dyson
  * **Writing on:** change in academic libraries, personnel management, cataloging, buildings and networks of the future

Edited by: Richard M. Dougherty and William H. Webb

the Journal of Academic Librarianship

Subscription coupon

___ Individual $ 14
___ Institution $ 25
___ Elementary or secondary school library $ 14
___ Small public library $14 (book budget under $10,000)

NAME _____

ADDRESS _____ **INSTITUTION** _____

CITY _____ **STATE** _____ **ZIP** _____

SUBSCRIPTION DEPT. P.O. BOX 3496 BOULDER, COLO. 80303